ALLIED ELECTRONICS, INC

STATION SITE CONTROLLER (SSC)

Training Manual

Texaco / ANDI / POS

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1. General Information

1.1. Installation Environment

1. The Allied Electronics Station Site Controller (SSC) operates on 115 Vac @60hz,36 watts. The SSC is supplied with approximately 8ft. of 115 Vac power cord, and should be connected to an approved isolated ground receptacle on its own dedicated circuit. The SSC must be installed in a temperature controlled environment (between 32^0 F and 100^0 F).

2. Allied Electronics recommends that the SSC be installed with a UL Listed Power Conditioner to protect against power surges, low voltage (brown outs), and lightning.

3. The SSC must be installed in accordance with the National Electrical Code (NFPA 70), the Automotive and Marine Service Station Code (NFPA 30A), and all state and local electrical codes.

4. The SSC must be installed indoors, above the Class 1, Division 2 Hazardous location.

5. All field wiring (that is, all wiring connected directly to dispensing devices) should be oil and gas resistant, as required by Paragraph 501-13 of the NEC, and should be sealed in accordance with Article 500 of the NEC.

6. For use with peripheral devices which are UL Listed, have an EIA RS232C (or RS422A) communication protocol, and are installed over a hazardous location.

1.2. Warranty

The SSC has a one year parts warranty only, from date of installation, which can either be phoned in or submitted using the warranty/registration card enclosed in every SSC. If the start up information is not registered with our office within thirty (30) days of installation, warranty will begin from the date of shipment. Allied will warrant all parts against defects but not against physical damage or improper installation. All parts being returned "under warranty" must be accompanied with a Allied RMA number. When calling Allied for RMA numbers for SSC main boards, the individual will be asked for the main board serial number, located on the upper center edge of the Main Board, and a description of the problem.

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1.3. FCC Warning

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class "A" computing device pursuant to Subpart B of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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1.4. Overview

The SSC interfaces to the following devices:

See the "Technical Tips" section for dispenser models that are supported.

Bennett Dispensers & DCAs

1. Bennett (7000, 8000 & 9000) series Dispensers and DCA's (9000 series with Model 92D electronics only) and the Horizon dispenser via a 6 Channel multiplexer board connected to the Distribution box.

Gilbarco Dispensers & CRINDs

1. Gilbarco Dispensers via a 40 ma current loop board or the new 20/45 ma current loop board* which is connected to the Blue/Black or the Universal Distribution Box.

2. Gilbarco Generic CRINDs, Monochrome / Info-Screen Graphics displays and Cash acceptors via a 45 ma current loop board which is connected to the Universal Distribution box.

3. GSM (Gilbarco Security Module) is required for CRIND systems with debit support. The SSC communicates to the GSM via a fully populated RS-232 board.

***Note:** The 40ma current loop board, part #399-1410-GIL has been discontinued. This board has been replaced with the 20/45 ma current loop board part #499-2410. A more detailed description of this board can be found in the *"Communication Boards"* section of this manual.

Tokheim RPS Dispensers & Card Scan

1. Tokheim RPS Dispensers and Card Scan units via a 6 Channel current loop board connected to the Distribution box.

2. Sam/SSM module for Debit via a fully populated RS-232 board.

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Tokheim Dispensers & DPTs

1. Tokheim Dispensers via a 12V Serial interface board connected to the Model 98, or 67 Interface Boxes.

2. Tokheim Generic DPTs, Graphic displays, Debit modules and Cash acceptors via an RS-485 interface board connected to the Model 69 interface box.

Wayne Dispensers & CATs

1. Wayne Dispensers via a 7-wire Fully Populated RS-232 communication board connected to the Wayne PIB which is located in the Electronic Central.

2. Wayne CATs, Graphic displays, Debit MSM modules and Cash acceptors via an RS-485 interface board connected to either a J-Box or the CAT IF board.

Point - Of - Sale (POS)

1. Generic PC Based Point -Of -Sale Computer via a fully populated RS-232 board. Supporting the ANDI protocol interface.

PAD

1. Packet Assembler Disassembler (PAD) network interface device used to communicate to the X.25 network via a fully populated RS-232 board.

Tank gauge

1. Veeder Root TLS 250, 350 & 350R or equivalent tank gauge system via a fully populated RS-232 board.

2. Any Tank Gauge system that uses the Veeder Root protocol.

Car Wash

1. Ryko III, Ryko IV, Unitec POS 4000 and the Unitec/Interlink Car Wash controllers via a fully populated RS-232 board.

2. Ryko compatible controllers

VSAT

1. Hughes satellite system used to communicate to the Credit Card host via a fully populated RS-232 board.

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2. Installation Information

2.1. Procedures

1. Hardware Installation

a. Mount SSC unit onto wall.
b. Route and connect all communication cables as labeled.
Refer to *"Configuration Diagrams"* section.
c. Apply AC power to unit.

The SSC software will first initialize the hardware and then run some internal diagnostics before starting the application program. To indicate that the software is active, the SSC will display the following:

d. The prompt will display, ⇨ [SSC System Reset]
[Initializing ...]

SSC will next show the following on the display for several seconds.

⇨ [Software Version]
[SSC Warm Start]

SSC will then show the following on the display when ready.

⇨ [Software Version]
[Date & Time]

If you have these prompts, then proceed to next step, if not refer to the *"Power-Up Diagnostics"* of the Technical Tips section.

2. Programming steps

a. Program the dispensers*.
b. Program the SSC via the POS**.

Note* - Dispenser programming is not within the scope of this manual.

Note** - It is not within the scope of this manual to supply complete step-by-step programming of the POS.

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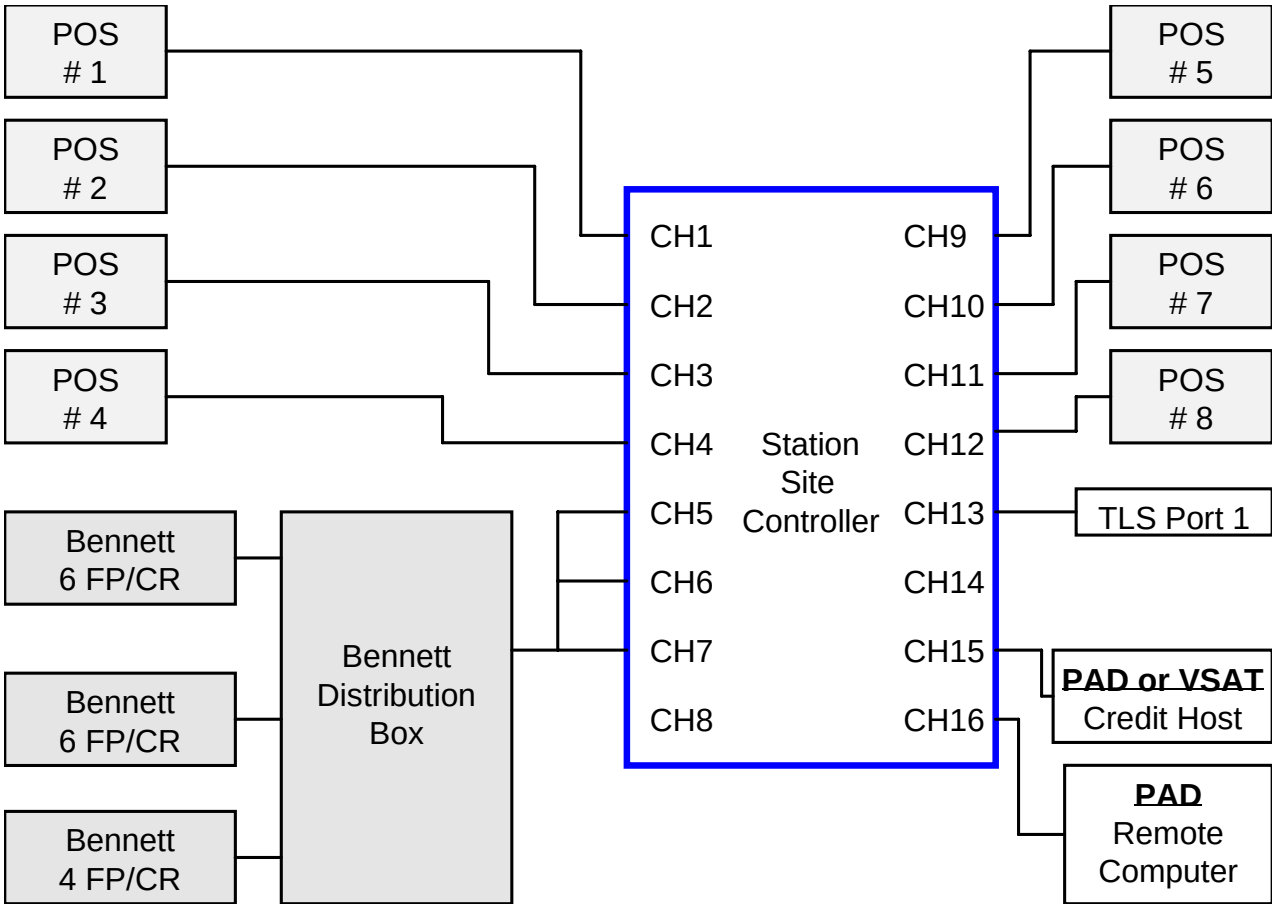
2.2. Configuration Diagrams

2.2.1. SSC/POS to Bennett (1 – 16 Fueling Points)



This figure describes an SSC/POS to Bennett with DCA installation 1 to 16 Fueling Positions.

Communication Boards

CH1 (POS) .....0399-1610-F (RS-232 Fully Populated board)
CH2 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH3 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH4 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH5 (Dispenser)..... 0399-2210 (6 Channel Multiplexer board)
CH6 (Dispenser) "Optional" ..... 0399-2210 (6 Channel Multiplexer board)
CH7 (Dispenser) "Optional" ..... 0399-2210 (6 Channel Multiplexer board)
CH9 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH10 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH11 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH12 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH13 (TLS Tank Gauge).....0399-1610-F (RS-232 Fully Populated board)
CH15 (PAD or VSAT) .....0399-1610-F (RS-232 Fully Populated board)
CH16 (PAD).....0399-1610-F (RS-232 Fully Populated board)

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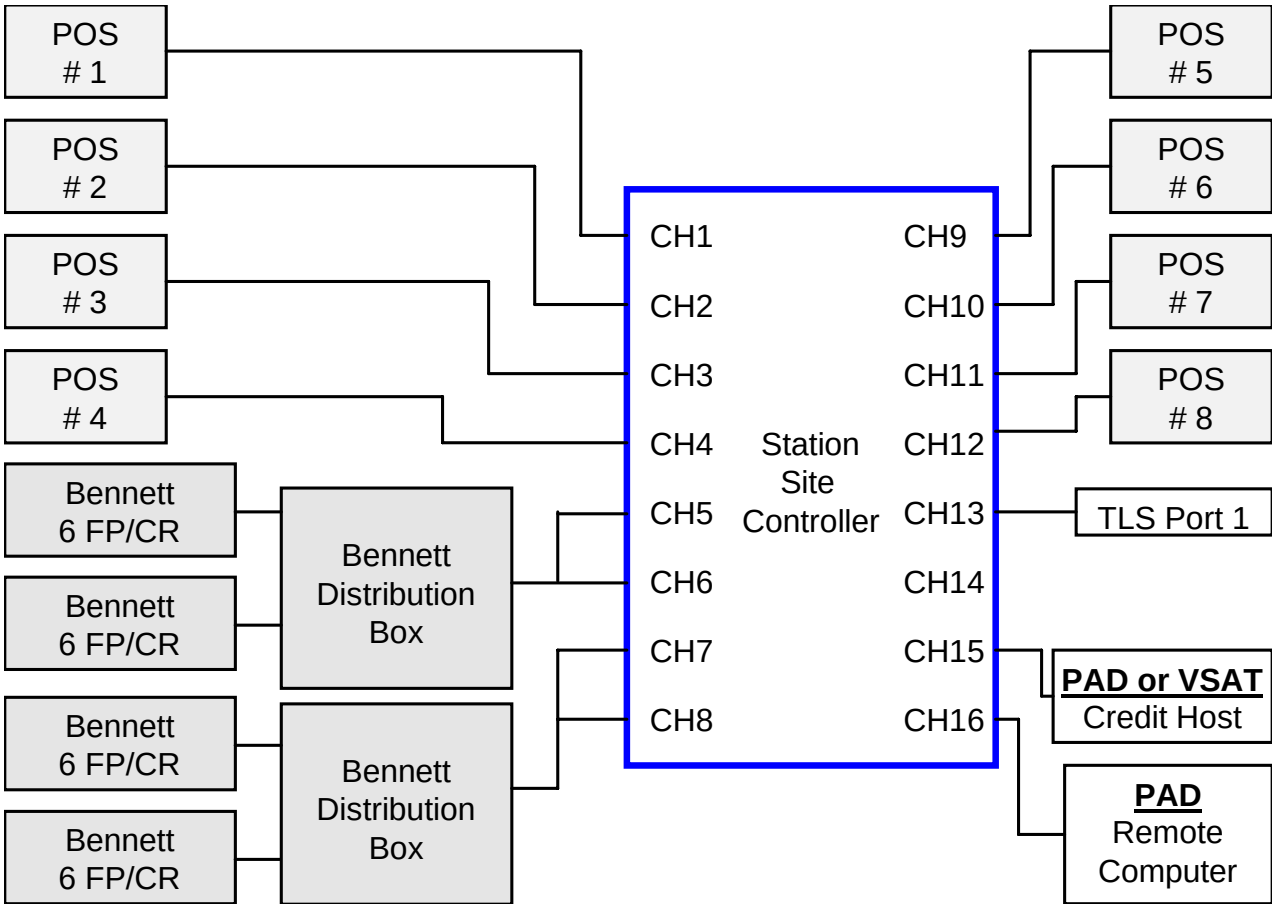
2.2.2. SSC/POS to Bennett (1 - 24 Fueling Points)



This figure describes an SSC/POS to Bennett with DCA installation 1 to 24 Fueling Positions.

Communication Boards

CH1 (POS) .....0399-1610-F (RS-232 Fully Populated board)
CH2 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH3 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH4 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH5 (Dispenser)..... 0399-2210 (6 Channel Multiplexer board)
CH6 (Dispenser) "Optional" ..... 0399-2210 (6 Channel Multiplexer board)
CH7 (Dispenser) "Optional" ..... 0399-2210 (6 Channel Multiplexer board)
CH8 (Dispenser) "Optional" ..... 0399-2210 (6 Channel Multiplexer board)
CH9 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH10 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH11 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH12 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH13 (TLS Tank Gauge).....0399-1610-F (RS-232 Fully Populated board)
CH15 (PAD or VSAT) .....0399-1610-F (RS-232 Fully Populated board)
CH16 (PAD).....0399-1610-F (RS-232 Fully Populated board)

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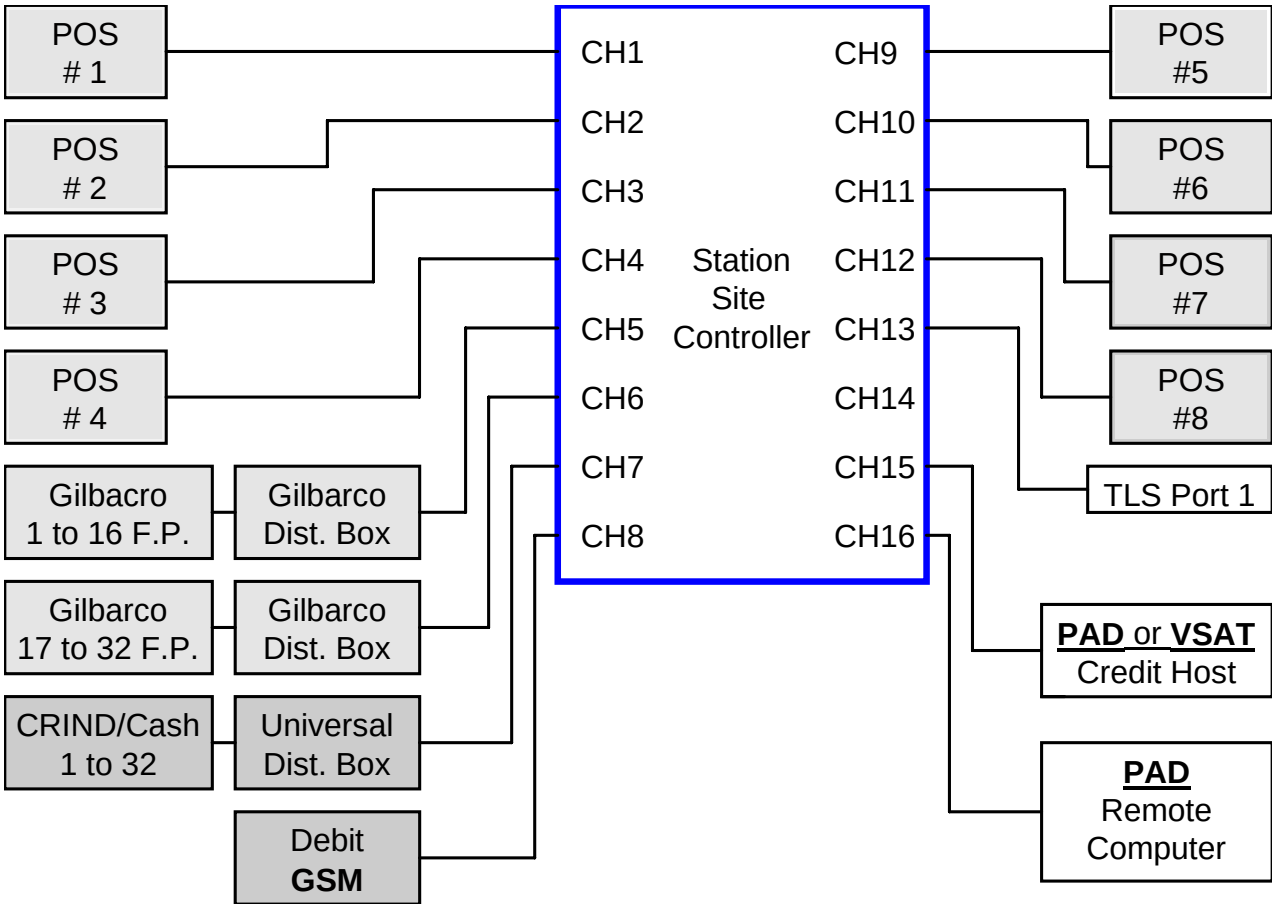
2.2.3. SSC/POS to Gilbarco



This figure describes an SSC/POS to Gilbarco with CRIND installation.

Communication Boards

CH1 (POS) .....0399-1610-F (RS-232 Fully Populated board)
CH2 (POS) “Optional”.....0399-1610-F (RS-232 Fully Populated board)
CH3 (POS) “Optional”.....0399-1610-F (RS-232 Fully Populated board)
CH4 (POS) “Optional”.....0399-1610-F (RS-232 Fully Populated board)
CH5 (Dispenser).....499-2410 (Current loop board)
CH6 (Dispenser) “Optional” ..... 499-2410 (Current loop board)
CH7 (Optional CRIND/Cash) ..... 499-2410 (Current loop board)
CH8 (Debit) “Optional”.....0399-1610-F (RS-232 Fully Populated board)
CH9 (POS) “Optional”.....0399-1610-F (RS-232 Fully Populated board)
CH10 (POS) “Optional”.....0399-1610-F (RS-232 Fully Populated board)
CH11(POS) “Optional”.....0399-1610-F (RS-232 Fully Populated board)
CH12 (POS) “Optional”.....0399-1610-F (RS-232 Fully Populated board)
CH13 (TLS Tank Gauge).....0399-1610-F (RS-232 Fully Populated board)
CH15 (PAD or VSAT) .....0399-1610-F (RS-232 Fully Populated board)
CH16 (PAD).....0399-1610-F (RS-232 Fully Populated board)

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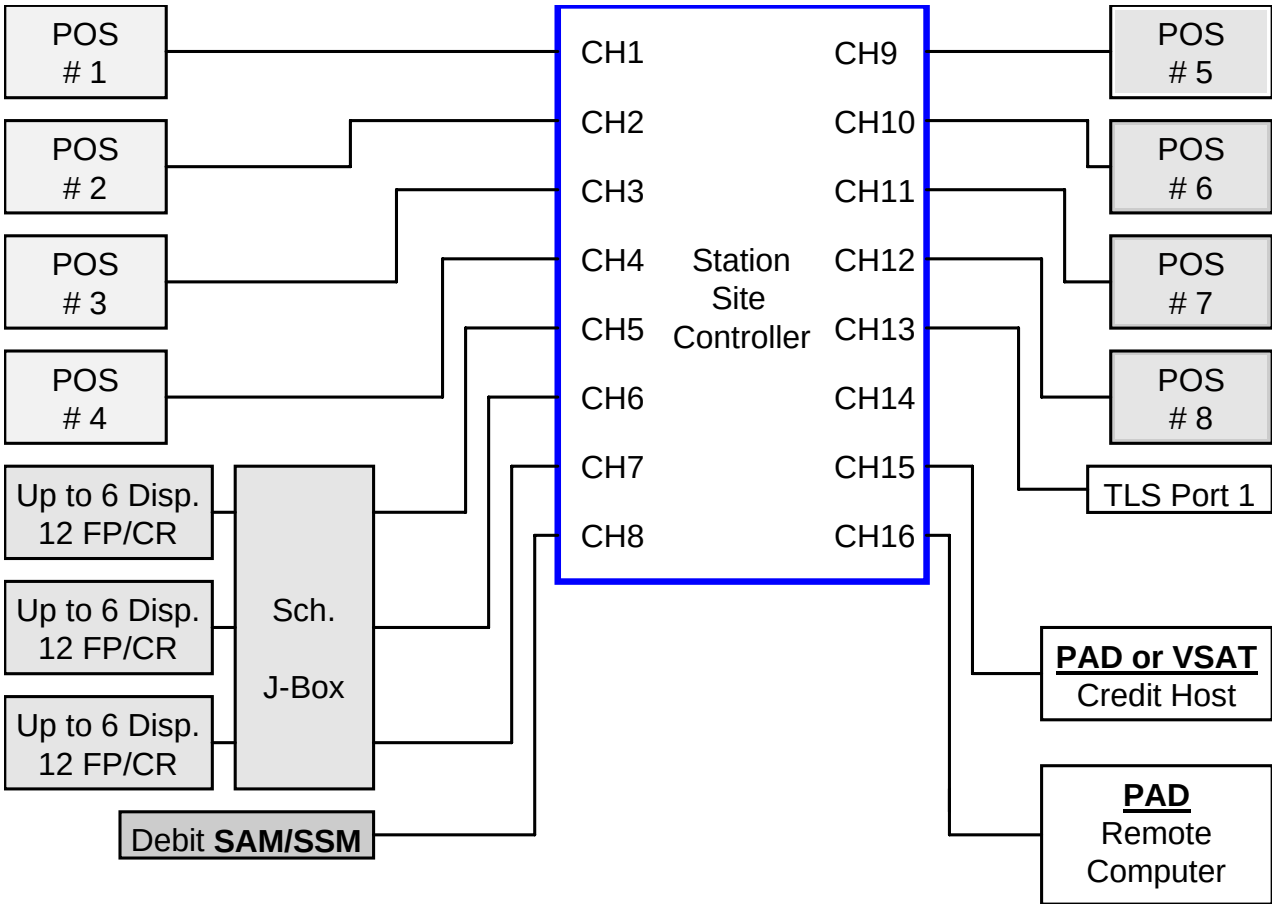
2.2.4. SSC/POS to Tokheim RPS



This figure describes an SSC/POS to Tokheim RPS with Card Scan installation.

Communication Boards

CH1 (POS) .....0399-1610-F (RS-232 Fully Populated board)
CH2 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH3 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH4 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH5 (Dispenser)..... 0399-2110 (6 Channel current loop board)
CH6 (Dispenser) "Optional" ..... 0399-2110 (6 Channel current loop board)
CH7 (Dispenser) "Optional" ..... 0399-2110 (6 Channel current loop board)
CH8 (Debit) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH9 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH10 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH11 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH12 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH13 (TLS Tank Gauge).....0399-1610-F (RS-232 Fully Populated board)
CH15 (PAD or VSAT) .....0399-1610-F (RS-232 Fully Populated board)
CH16 (PAD).....0399-1610-F (RS-232 Fully Populated board)

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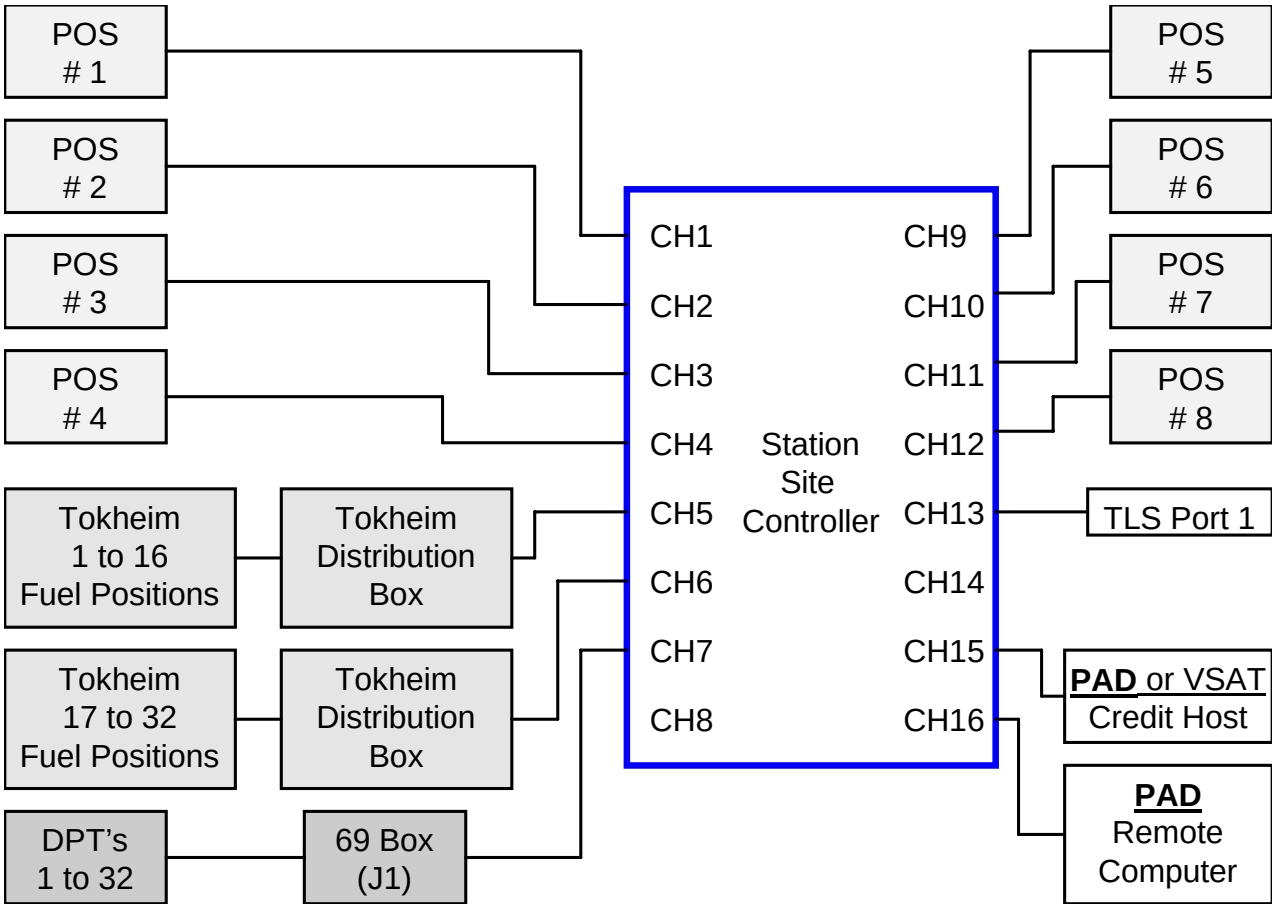
2.2.5. SSC/POS to Tokheim



This figure describes an SSC/POS to Tokheim with DPT installation.

Communication Boards

CH1 (POS) .....0399-1610-F (RS-232 Fully Populated board)
CH2 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH3 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH4 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH5 (Dispenser).....0399-1512 (12 volt serial interface board)
CH6 (Dispenser) "Optional".....0399-1512 (12 volt serial interface board)
CH7 (DPT's) "Optional" .....499-2710 or 499-3710 (RS-485 board)
CH9 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH10 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH11 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH12 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH13 (TLS Tank Gauge).....0399-1610-F (RS-232 Fully Populated board)
CH15 (PAD or VSAT) .....0399-1610-F (RS-232 Fully Populated board)
CH16 (PAD).....0399-1610-F (RS-232 Fully Populated board)

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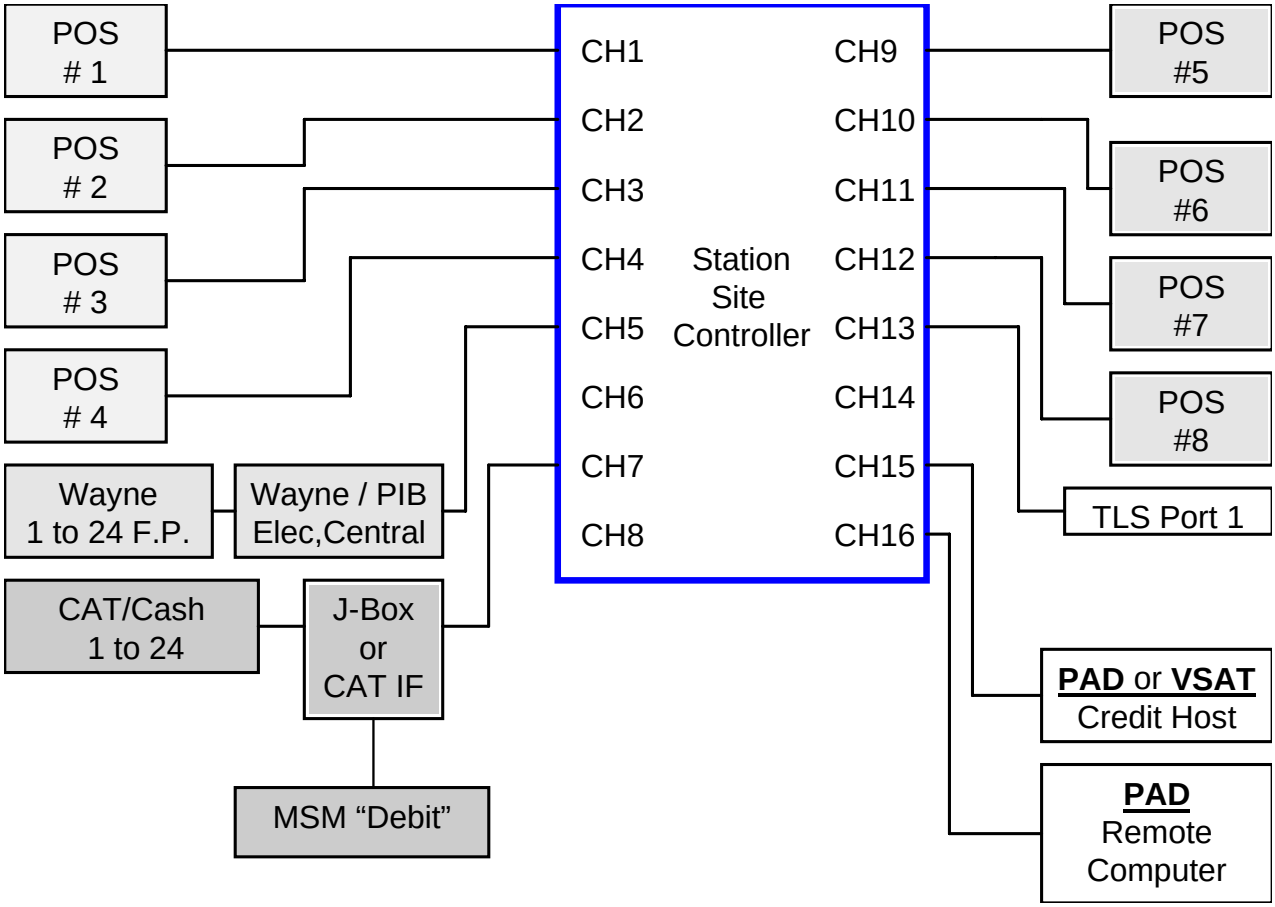
2.2.6. SSC/POS to Wayne



This figure describes an SSC/POS to Wayne with CAT installation.

Communication Boards

CH1 (POS) .....0399-1610-F (RS-232 Fully Populated board)
CH2 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH3 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH4 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH5 (Dispenser)..... 0399-1610-F (RS-232 Fully Populated board)
CH7***** (CAT/Cash).....499-2710 or 499-3710 (RS485 board)
CH9 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH10 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH11(POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH12 (POS) "Optional".....0399-1610-F (RS-232 Fully Populated board)
CH13 (TLS Tank Gauge).....0399-1610-F (RS-232 Fully Populated board)
CH15 (PAD).....0399-1610-F (RS-232 Fully Populated board)
CH16 (PAD).....0399-1610-F (RS-232 Fully Populated board)

* *If a CAT IF board is present the 499-3710 RS-485 board must be used.*

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3. Programming

3.1. Dispenser and Card Reader Addressing

3.1.1. Bennett Addressing

3.1.1.1. Dispensers and DCAs

Four Channels (5, 6, 7 & 8) have been designated to communicate with the Bennett Dispensers/DCA's. Each Channel supports up to 6 fueling positions.

The DCA address is automatically set when the fueling position address is programmed for each dispenser. The DCA address will match the fueling position address. However, after the correct fueling position address is programmed the dispenser will always display a "0" for all DCA addresses, this is correct. This must remain set to "0" in order for the system to function properly.

Example:

SSC Channel	Fueling Positions	DCA Address
CH-5	1	0
CH-5	2	0
CH-5	3	0
CH-5	4	0
CH-5	5	0
CH-5	6	0
CH-6	7	0
CH-6	8	0
CH-6	9	0
CH-6	10	0
CH-6	11	0
CH-6	12	0
CH-7	13	0
CH-7	14	0
CH-7	15	0
CH-7	16	0
CH-7	17	0
CH-7	18	0
CH-8	19	0
CH-8	20	0
CH-8	21	0
CH-8	22	0
CH-8	23	0
CH-8	24	0

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3.1.2. Gilbarco Addressing

3.1.2.1. Gilbarco CRIND jumper settings

The following is a list of the jumper settings for the Gilbarco CRINDs

Jumper	Description	Setting
JP1	Watchdog	Installed
JP14	GEN/MOC	Installed
JP 16	Spare Input	Installed- Sets the baud rate for the CRIND to 4800.
JP13	Side A	When appropriate
JP11	Cold Start	Installed on initial startup. The CRIND will prompt for this to be removed after a complete cold start.
JP4 - JP8	CRIND Address	Set for the appropriate address- one behind the pump address. ex: FP #1, C/R 0, etc.

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3.1.2.2. Gilbarco Distribution box jumper settings

The SSC communicates with the Gilbarco dispensers and CRINDs via two wire communications and uses 45ma current loop boards.

Channels 5 and 6 on the SSC can each communicate with up to sixteen fueling positions. Channel 7 can communicate with up to 32 CRINDs.

The following is a list of the Jumper settings for the Gilbarco universal distribution box for Pump and CRIND communications.

Two wire configuration (45ma)

Jumper	Jumper setting for Boards 1 and 2
JP10	Horizontal
JP12	Horizontal
JP9	Horizontal (Pumps/CRINDs)
JP14	Installed

Single and dual board configurations

1) 1 board, 1 input, 8 loops for dispensers, CRINDs
2) 2 boards, 1 input , 16 loops for dispensers or CRINDs on boards 1 & 2
3) 2 boards, 2 inputs, 8 loops for dispensers on board 1 and 8 loops for CRINDs on board 2 or 8 loops for dispensers on board 1 and 8 loops for dispensers on board 2.

Option	Jumper setting for Board 1	Jumper setting for Board 2
1	JP11, set to “B”	N/A
1	JP13, set to “B”	N/A
2	JP11, set to “B”	JP11, set to “A”
2	JP13, set to “A”	JP13, set to “B”
3	JP11, set to “B”	JP11, set to “B”
3	JP13, set to “B”	JP13, set to “B”

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3.1.2.3. Gilbarco Dispensers and CRINDs

Two Channels (5 and 6) have been designated to communicate with the Gilbarco dispensers. Each Channel can accommodate up to 16 fueling positions. The address of the first fueling position on Channel 5 will be set to address “1”, the second to address “2” etc. If Channel 6 is used, the address of the first fueling position connected on this Channel will also be set to address “1”, the second to address “2” etc. See example.

The SSC uses Channel 7 to communicate with the Gilbarco CRINDs. The CRIND device address must be one less than the fueling position number.

Fueling Position			**CRIND Address**		
Fueling Position	Address	SSC Channel	Advantage	Encore	SSC Channel
1	1	CH-5	0	32	CH-7
2	2	CH-5	1	1	CH-7
3	3	CH-5	2	2	CH-7
4	4	CH-5	3	3	CH-7
5	5	CH-5	4	4	CH-7
6	6	CH-5	5	5	CH-7
7	7	CH-5	6	6	CH-7
8	8	CH-5	7	7	CH-7
9	9	CH-5	8	8	CH-7
10	10	CH-5	9	9	CH-7
11	11	CH-5	10	10	CH-7
12	12	CH-5	11	11	CH-7
13	13	CH-5	12	12	CH-7
14	14	CH-5	13	13	CH-7
15	15	CH-5	14	14	CH-7
16	16	CH-5	15	15	CH-7
17	1	CH-6	16	16	CH-7
18	2	CH-6	17	17	CH-7
19	3	CH-6	18	18	CH-7
20	4	CH-6	19	19	CH-7
21	5	CH-6	20	20	CH-7
22	6	CH-6	21	21	CH-7
23	7	CH-6	22	22	CH-7
24	8	CH-6	23	23	CH-7
25	9	CH-6	24	24	CH-7
26	10	CH-6	25	25	CH-7
27	11	CH-6	26	26	CH-7
28	12	CH-6	27	27	CH-7
29	13	CH-6	28	28	CH-7
30	14	CH-6	29	29	CH-7
31	15	CH-6	30	30	CH-7
32	16	CH-6	31	31	CH-7

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3.1.2.4. Gilbarco Blending Dispensers

Gilbarco Variable Blenders

The ANDI interfaces to the following Gilbarco variable Blenders:

3+0 4+0 5+0
3+1 4+1 5+1

A variable blender without diesel, or 3+0, will have position 1, grade 1 on the left on both sides of the pump. Gilbarco products are mapped as positions 1, 3 and 5 (Advantage) and positions *1, 2 and 3 (Advantage with "Optimized" electronics*), Low grade, Mid grade and High grade respectively, from left to right when facing each side of the dispenser. A 5+0 will have the products mapped as positions 1, 2, 3, 4 and 5. Low grade, blend grade 1, blend grade 2, blend grade 3 and High grade. The following is an example of a 3+0.

B side

product 3	product 2	product 1	
position 5	position 3	position 1	**Advantage**
position 3	position 2	position 1	***Adv. w/ optimized & Encore***

A side

product 1	product 2	product 3	
position 1	position 3	position 5	**Advantage**
position 1	position 2	position 3	***Adv. w/ optimized & Encore***

An advantage variable blender with diesel, or 3 + 1, will always have the diesel product for each side mirrored with one another. The diesel will be on the right when facing side A, while diesel will be on the left when facing side B. Gilbarco maps the diesel product as product 6. The remaining grades are mapped the same as the 3 + 0 described above. The pump is shown below:

B Side

product 3	product 2	product 1	product 4	
position 5	position 3	position 1	position 6	**Advantage**
position 3	position 2	position 1	position 6	**Adv. w/ optimized & Encore**

A Side

product 1	product 2	product 3	product 4	
position 1	position 3	position 5	position 6	**Advantage**
position 1	position 2	position 3	position 6	**Adv. w/ optimized & Encore**

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Product to Position Mapping for Gilbarco Variable Blenders

In the Gilbarco system, the product type to product # assignment can be in any order. For the 3+0 and 3+1 variable blenders, the following will be used:

POS Product #1: Low grade
POS Product #2: Blended Product
POS Product #3: High grade
POS Product #4: Diesel

Model 3 + 0 Variable blender

The table below lists the proper product to position assignment for each blender type which is set via the POS ***fueling point configuration*** menu.

The ***blender type*** setting is not used and should be set to zero (0).

Position	Advantage Product	Adv. w/optimized & Encore Product
1	**Low grade**	**Low grade**
2	Not assigned	**Blended product**
3	**Blended product**	**High grade**
4	Not assigned	Not assigned
5	**High grade**	Not assigned
6	Not assigned	Not assigned
7	Not assigned	Not assigned
8	Not assigned	Not assigned

**** The low grade and the high grade products may be switched depending on the position of the dispenser and the installation of the product lines.***

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Model 3 + 1 Variable blender

The table below lists the proper product to position assignment for each blender type which is set via the POS ***fueling point configuration menu.***

The ***blender type*** setting is not used and should be set to zero (0).

Position	Advantage Product	*Adv. w/optimized & Encore Product*
1	**Low grade**	**Low grade**
2	Not assigned	**Blended product**
3	**Blended product**	**High grade**
4	Not assigned	Not assigned
5	**High grade**	Not assigned
6	**Diesel**	**Diesel**
7	Not assigned	Not assigned
8	Not assigned	Not assigned

**** The low grade and the high grade products may be switched depending on the position of the dispenser and the installation of the product lines.***

Product to Position Mapping Fixed Blenders (Advantage and *Optimized*)

A Gilbarco fixed blender does not require any special product mapping. The table below lists the proper product to position assignment for this blender type and is programmed via the POS ***fueling point configuration menu.***

The ***blender type*** setting is not used and should be set to zero (0).

Position	Product
1	**Low grade**
2	**Blended product**
3	**High grade**
4	Not assigned
5	Not assigned
6	Not assigned
7	Not assigned
8	Not assigned

**** The low grade and the high grade products may be switched depending on the position of the dispenser and the installation of the product lines.***

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3.1.2.5. Gilbarco Security Module (GSM) for Debit

The Gilbarco Security Module (GSM) must be ordered from Gilbarco for a specific Network application. It should be configured by Gilbarco for the location. There are no switches or jumpers to be set.

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3.1.3. Tokheim RPS Addressing

3.1.3.1. Tokheim RPS Dispensers and CARDSCAN

Three Channels (5, 6, and 7) have been designated to communicate with the Tokheim RPS Dispensers/CARDSCANs. Each SSC Channel supports up to 6 dispensers, numbered 0-5. Each dispenser supports 1-2 fueling positions. On each Channel, the dispenser numbers must start at 0 and be numbered consecutively (to a maximum of 5). However, the fueling position number may be set to any value from 1 to 32.

Note: The dispenser wiring is position specific.

Example:

Dispenser Number		Fueling Positions/Cardscan
Address	SSC Channel	Address
0	CH-5	1 & 2
1	CH-5	3 & 4
2	CH-5	5 & 6
3	CH-5	7 & 8
4	CH-5	9 & 10
5	CH-5	11 & 12
0	CH-6	13 & 14
1	CH-6	15 & 16
2	CH-6	17 & 18
3	CH-6	19 & 20
4	CH-6	21 & 22
5	CH-6	23 & 24
0	CH-7	25 & 26
1	CH-7	27 & 28
2	CH-7	29 & 30
3	CH-7	31 & 32

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3.1.3.2. Tokheim RPS Blending Dispensers

Variable and Fixed Blenders

The ANDI interfaces to the Tokheim RPS Centurion & 4000 series Variable and fixed blenders.

Product to position Mapping

Tokheim RPS dispensers do not require special product to position mapping in the POS ***Fueling Point Configuration*** section. The products are set to positions 1 through 3 for a 3 product dispenser and positions 1 through 4 for a 4 product dispenser. The table below lists the proper product to position assignment for a four product dispenser.

The ***blender type*** setting is not used and should be set to zero (0).

Position	Product
1	**Low grade**
2	**Blended product**
3	**High grade**
4	Not assigned
5	Not assigned
6	Not assigned
7	Not assigned
8	Not assigned

**** The low grade and the high grade products may be switched depending on the position of the dispenser and the installation of the product lines.***

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3.1.3.3. Tokheim RPS Access/Security Module (SAM/SSM) for Debit

The Tokheim RPS Access/Security Module (SAM/SSM) must be ordered from Tokheim RPS for a specific Network application. The following switches in the SAM/SSM and options in the *model #4000 series* dispenser must be set for proper operation.

SAM/SSM Switch #1		SAM/SSM Switch #3	
Position	**Setting**	**Position**	**Setting**
1	off	1	off
2	off	2	on
3	off	3	off
4	off	4	on
5	on	5	off
6	off	6	on
7	off		
8	on		

Dispenser Options (Model #4000)	
Option #	**Setting**
25	4
80	2
87	1

Note: The dispenser options that are listed above are for the model #4000 series only. These option settings are not necessary for the *Centurion* dispenser.

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3.1.4. Tokheim Addressing

3.1.4.1. Tokheim Model #67 Interface boxes

Tokheim manufactures two model #67 interface boxes, model #67A and #67B. The 67B interface box must be *"downgraded"* to be a *#67A* in order for it to communicate to an Allied interface box. The 67B interface box will not operate with Allied interface systems.

The downgrade consists of the following changes:

1. Disconnect *J6* and *J8* from the interface motherboard (Part# 316386-1).
2. Disconnect *J3* from the interface power supply board (Part# 421483-1). This board is only in the 67B interface box.
3. *J3, J6* and *J8* make up a complete cable assembly. Discard the entire assembly.
4. Disconnect *J4* from the power supply board and connect it into *J6* on the motherboard.

Note: Once this " downgrade" is completed, the 67 box will communicate with the Allied interface.

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3.1.4.2. Tokheim Dispensers and DPTs

Two Channels (5 and 6) have been designated to communicate with the Tokheim dispensers. Each Channel can accommodate up to 16 fueling positions. The address of the first fueling position on Channel 5 will be set to address “1”, the second to address “2” etc. If Channel 6 is used, the address of the first fueling position connected on this Channel will also be set to address “1”, the second to address “2” etc. See example .

The SSC uses Channel 7 to communicate with the Tokheim DPTs. The DPT device address must be the same as the fueling position number. Unless it is above 16.

Example:

	Fueling Positions		DPT	
Fueling Position	Address	SSC Channel	Tokheim/Address	SSC Channel
1	1	CH-5	1	CH-7
2	2	CH-5	2	CH-7
3	3	CH-5	3	CH-7
4	4	CH-5	4	CH-7
5	5	CH-5	5	CH-7
6	6	CH-5	6	CH-7
7	7	CH-5	7	CH-7
8	8	CH-5	8	CH-7
9	9	CH-5	9	CH-7
10	10	CH-5	10	CH-7
11	11	CH-5	11	CH-7
12	12	CH-5	12	CH-7
13	13	CH-5	13	CH-7
14	14	CH-5	14	CH-7
15	15	CH-5	15	CH-7
16	16	CH-5	16	CH-7
17	1	CH-6	17	CH-7
18	2	CH-6	18	CH-7
19	3	CH-6	19	CH-7
20	4	CH-6	20	CH-7
21	5	CH-6	21	CH-7
22	6	CH-6	22	CH-7
23	7	CH-6	23	CH-7
24	8	CH-6	24	CH-7
25	9	CH-6	25	CH-7
26	10	CH-6	26	CH-7
27	11	CH-6	27	CH-7
28	12	CH-6	28	CH-7
29	13	CH-6	29	CH-7
30	14	CH-6	30	CH-7
31	15	CH-6	31	CH-7
32	16	CH-6	32	CH-7

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3.1.4.3. Tokheim Blending Dispensers

Variable Blenders

The ANDI interfaces to the following types of Tokheim variable blenders:

Premier Multi hose, multi product blender
Single hose, multi product blender
Single hose, multi product + diesel blender

Fixed Blenders

The ANDI interfaces to the following types of Tokheim fixed blenders:

TCSA blender
Premier multi hose, multi product blender
Premier single hose, muti product blender
One of the above with diesel

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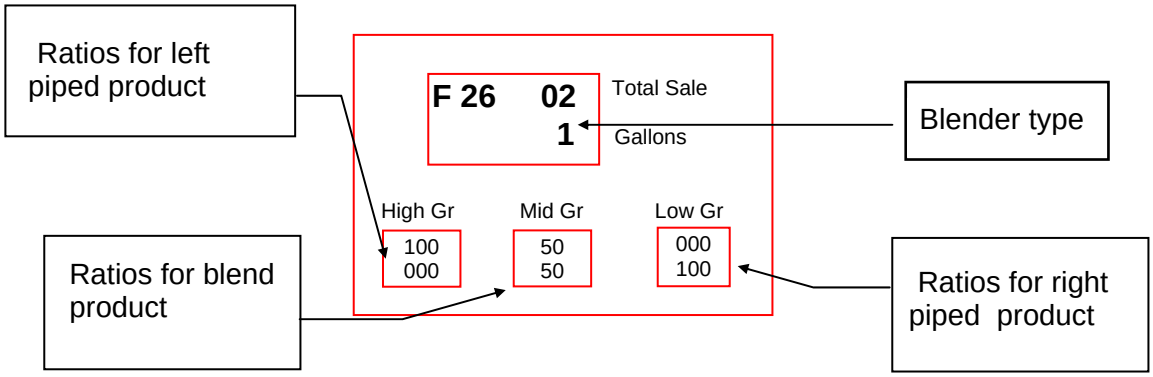
Dispenser Programming

Mode 26 of the dispenser programming must be configured correctly for the blend ratios. The programming screen for the dispenser is shown below, for variable blenders.



1) In mode 26 on the right side of the gallon display window a **0 ,1 or 2** may be showing in the gallon window. This option sets the ***Blender type.***

0 = Blender used without ratio verification*
1 = Blender used with ratio verification*
2 = Blender used with a controller that does not support blenders

* **ratio verification** - The POS ratios must match the dispenser ratios. If the ratios do not match, an error message, ***" Blend Ratio Error",*** will be displayed on the dispenser card reader, if present, when the customer attempts to reset and begin fueling the blended product.

2) Set the blender ratios. Each product has two ratios which are displayed in the PPG windows:

Top line = ratio of the left piped product
Bottom line = ratio of the right piped product

As shown in the figure above, the left piped product has 100 % of the high grade and 0 % of the low grade. The right piped product has 0 % of the high grade and 100 % of the low grade.

The blend product allows the left (top) grade to be set, and automatically adjusts the bottom grade ratio so the sum of the ratios equals 100. The ***Blended Fuels Ratios*** settings in the POS must match the dispenser setting.

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Product to Position Mapping

Tokheim dispensers do not require special product to position mapping in the POS ***Fueling Point Configuration*** menu. The products are set to positions 1 through 3 for a 3 product dispenser, positions 1 through 4 for a 4 product dispenser and positions 1 through 5 for a 5 product dispenser. The table below lists the proper product to position assignment for a 4 product dispenser.

The ***blender type*** setting for each fueling point must be set properly to one of the values listed below.

2 = Fixed blender
3 = Variable blender or Variable + 1 with the non blended products set as "non" in Mode 26
4 = Variable blender with the non blended product set as a ratio
5 = Variable blender + 1 with the non blended product set as a ratio

Position	Product
1	**Low grade**
2	**Blended product**
3	**High grade**
4	**Diesel**
5	Not assigned
6	Not assigned
7	Not assigned
8	Not assigned

**** The low grade and the high grade products may be switched depending on the position of the dispenser and the installation of the product lines.***

3.1.4.4. Tokheim Debit

The Tokheim Debit Keypad Modules (TDS+), or Tokheim Encryption Device (TED) must be ordered from Tokheim for a specific Network application. They should be configured by Tokheim for the location. There are no switches or jumpers to be set.

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3.1.5. Wayne Addressing

3.1.5.1. Wayne CAT Interface Board

The following is a list of the jumper settings for the Wayne CAT IF board when used with the ANDI.

Jumper	Position
JP1, JP2, JP4 – JP6, JP10, JP11 – JP28, JP30, JP31	1 & 2
JP3, JP8, JP9, JP29	None
JP7	2 & 3

3.1.5.2. Wayne Dispensers and CATs

Channel 5 has been designated to communicate with the Wayne dispensers via the PIB, which must be set to 1200 or 9600 baud, and can communicate with up to 24 fueling positions.

The SSC uses Channel 7 to communicate with the Wayne CATs. A communication cable connects Channel 7 to a junction box for connection to the CATs. If a CAT IF board is present it is installed in the Electronic Central. In this case all of the CATs are connected to the motherboard inside of the EC.

Example:

	Fueling Positions		CAT	
Fueling Position	Address	SSC Channel	Address	SSC Channel
1	1	CH-5	1	CH-7
2	2	CH-5	2	CH-7
3	3	CH-5	3	CH-7
4	4	CH-5	4	CH-7
5	5	CH-5	5	CH-7
6	6	CH-5	6	CH-7
7	7	CH-5	7	CH-7
8	8	CH-5	8	CH-7
9	9	CH-5	9	CH-7
10	10	CH-5	10	CH-7
11	11	CH-5	11	CH-7
12	12	CH-5	12	CH-7
13	13	CH-5	13	CH-7
14	14	CH-5	14	CH-7
15	15	CH-5	14	CH-7
16	16	CH-5	16	CH-7
17	17	CH-5	17	CH-7
18	18	CH-5	18	CH-7
19	19	CH-5	19	CH-7
20	20	CH-5	20	CH-7
21	21	CH-5	21	CH-7
22	22	CH-5	22	CH-7
23	23	CH-5	23	CH-7
24	24	CH-5	24	CH-7

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3.1.5.3. Wayne "Vista" Dispensers

The following parameters must be set in the Wayne "Vista" dispensers and in the 2400 console in order for the system to function correctly.

Vista Dispenser		
Model	**Option #2 (*Macro)***	**Option #51 *(Blend Ratios*)**
V390 D1, *(non-blend)*	5	*N/A*
V395 D1, *(variable blend)*	13	Must match mode 17 in the 2400 console
V580 D1, *(variable blend)*	10	Must match mode 17 in the 2400 console
V580 D3, *(variable blend)*	11	Must match mode 17 in the 2400 console
V590 Uni-hose, *(fixed blend)*	10	Must match mode 17 in the 2400 console
V590 D1, *(fixed blend)*	7	Must match mode 17 in the 2400 console

2400 console		
Mode	**Sub-mode**	**Setting**
03 *(FP to tank assignment)*	FP #	Pure products, *ex. (0534, 0540)*
18 *(Grade to position assignment)*	FP #	*POS FP config. must match mode 18*
17 *(Blend ratio to grade)*	06 *(blended product)*	Must match option 51 in the dispenser

3.1.5.4. Wayne "Vista" Blending Dispensers

Variable Blenders

The ANDI interfaces to the following Wayne variable blenders.

580 D1 - Single hose. Multi product dispenser without diesel.
580 D3 - Single hose. Multi product dispenser without diesel.
395 - Single hose + 1. Multi product dispenser with diesel.

Fixed Blenders

The ANDI interfaces to the following Wayne fixed blenders.

590 - Multi hose, multi product dispenser without diesel.
590U - Single hose, multi product dispenser without diesel. Uses the same configuration as the 580.

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Dispenser and 2400 Console Settings

For the Wayne blenders to operate properly, several options must be set at the dispenser, at the Decade 2400 console and also at the POS.

1- Dispenser Macro

The dispenser options are set via a macro. Below are the proper macro settings for the variable blenders.

Model Type	Macro Setting
590	7
395	13
580 D1 & 590U	10
580 D3	11

2- 2400 Console Programming

Additional programming parameters must be set via the Decade 2400 console for proper dispenser operation.

a) Set Mode 18 for each fueling point. Mode 18 is the ***Grade to Position*** assignment for each fueling point. The table below summarizes proper mode setting for each type of blending dispenser.

Model Type	Mode 18 Setting
590	0465000
395	1005640
580 D1 & 590U	0050604
580 D3	0056400

b) Set Mode 03 for each fueling point. Mode 03 programs the ***Grade*** assignment for each fueling point. Below summarizes the proper setting for each type of blending dispenser.

Model Type	Mode 03 Setting
590	0540
395	0541
580 D1 & 590U	0540
580 D3	0540

c) Set Mode 17, sub- mode 6 ***(blend grade).*** This sets the Blend Ratio for product 6. This blend ratio must match the ratio that is set at the dispenser in option 51 and also at the POS in the ***Blended Fuels Ratios Menu.***

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POS Product to Position Mapping

The following is a list of the Wayne product identification numbers:

1- Diesel
2- Not Used
3- Mid grade, ***Non Blended Product***
4- Low grade
5- High grade
6- Blended product

The POS fuel product I.D. numbers must match the Wayne product I.D. numbers. If the product I.D. numbers do not match and if there is a card reader at the dispenser the card reader will display ***"Blend Grade Assign ERROR",*** after configuration. Once the product mapping is corrected, the dispenser card reader will display the idle prompt.

The tables below list the proper fueling point "***product to position"*** assignment for each blender type. This programming is done via the ***Fueling Point Configuration Menu*** at the POS.

For proper operation the fueling point "product to position" assignment must match the configuration of mode 18 which is programmed via the Wayne Decade 2400 console.

The ***blender type*** setting is not used and should be set to zero (0).

Model 590

Position	Product
1	Not assigned
2	**Low grade**
3	**Blended product**
4	**High grade**
5	Not assigned
6	Not assigned
7	Not assigned
8	Not assigned

**** The low grade and the high grade products may be switched depending on the position of the dispenser and the installation of the product lines.***

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The ***blender type*** setting is not used and should be set to zero (0).

Model 395

Position	Product
1	**Diesel**
2	Not assigned
3	Not assigned
4	**High grade**
5	**Blended product**
6	**Low grade**
7	Not assigned
8	Not assigned

**** The low grade and the high grade products may be switched depending on the position of the dispenser and the installation of the product lines.***

The ***blender type*** setting is not used and should be set to zero (0).

Models 580 D1 & 590 U

Position	Product
1	Not assigned
2	Not assigned
3	**High grade**
4	Not assigned
5	**Blended product**
6	Not assigned
7	**Low grade**
8	Not assigned

**** The low grade and the high grade products may be switched depending on the position of the dispenser and the installation of the product lines.***

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The ***blender type*** setting is not used and should be set to zero (0).

Model 580 D3

Position	Product
1	Not assigned
2	Not assigned
3	**High grade**
4	**Blended product**
5	**Low grade**
6	Not assigned
7	Not assigned
8	Not assigned

**** The low grade and the high grade products may be switched depending on the position of the dispenser and the installation of the product lines.***

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3.1.5.5. Wayne Blending Quick Reference Guide

Dispenser Model	Dispenser Macro	Mode 03 setting	Mode 18 setting	POS FP Positions
395	**13**	**0541**	**1**	**1- Diesel**
			0	2- Not Assigned
			0	3- Not Assigned
			5	**4- High grade**
			6	**5- Blend grade**
			4	**6- Low grade**
			0	7- Not Assigned
				8- Not Assigned
580 D1	**10**	**0540**	0	1- Not Assigned
			0	2- Not Assigned
&			**5**	**3- High grade**
			0	4- Not Assigned
590 U			**6**	**5- Blend grade**
			0	6- Not Assigned
			4	**7- Low grade**
				8- Not Assigned
580 D3	**11**	**0540**	0	1- Not Assigned
			0	2- Not Assigned
			5	**3- High grade**
			6	**4- Blend grade**
			4	**5- Low grade**
			0	6-Not Assigned
			0	7-Not Assigned
				8- Not Assigned
590	**07**	**540**	0	1- Not Assigned
			4	**2- Low grade**
			6	**3- Blend grade**
			5	**4- High grade**
			0	5- Not Assigned
			0	6- Not Assigned
			0	7- Not Assigned
				8- Not Assigned

Note: "Not Assigned" = 0 product value.

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3.2. SSC Parameters Values and Options

The SSC keypad is not used to configure the SSC. The SSC configuration is done by the POS. The POS has to download all required parameters to the SSC. The SSC will start polling the dispensers only after the POS has downloaded station configuration data.
If the SSC has not received the download from the POS the unit will display [CHXX Await Cnfg.] The SSC is waiting to be configured before this Channel becomes active.

Parameters Downloaded from POS:

DPT Configuration
Fuel Information
Product Information
Car Wash Information
Cash / Credit Limits
Mode of Service
Default Price Level
Sale Stacking
Number of fueling points

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3.3. Keypads

3.3.1. Bennett

Type 1

Yes		No	Pay Outside Credit
1	2	3	Pay Inside Credit
4	5	6	Pay Inside Cash
7	8	9	Help
Clear	0	Cancel	Enter

Type 2

Yes		No	Pay Outside
1	2	3	Pay Inside
4	5	6	
7	8	9	Help
Clear	0	Cancel	Enter

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Type 3 (Horizon)

Pay Inside	Pay Here
Yes	No
Clear	Enter
Help	

1	2	3
4	5	6
7	8	9
	0	

3.3.2. Gilbarco

Type 1

1	2	3		Pay Outside Credit
4	5	6	Pay Inside Cash	Pay Inside Credit
7	8	9	No	Receipt Yes
Clear	0	Enter	Help	Cancel

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Type 2

1	2	3		Pay Outside
4	5	6		Pay Inside
7	8	9	No	Receipt Yes
Clear	0	Enter	Help	Cancel

Type 3

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6	Pay Inside Cash	Pay Inside Credit
7	8	9	No	Receipt Yes
Clear	0	Enter	Help	Cancel

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Type 4

1	2	3	Pay Outside	
4	5	6		Pay Inside
7	8	9	Yes	Help
Clear	0	Enter	No	Cancel

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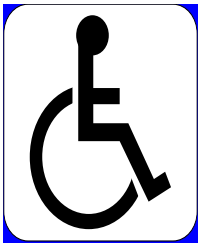
Type 5 “Info Screen (Virtual Pay Inside only)
Type 6 “Info Screen (Virtual Pay inside Cash & Pay Inside Credit)

Note: Outside Debit and Outside Cash is also supported

Soft key Left	--- Pay Here Credit	**Soft key Right**
Soft key Left	--- Pay Inside (keypad 5) --- Pay Inside Credit (keypad 6)	**Soft key Right**
Soft key Left	--- Pay Inside Cash (keypad 6)	**Soft key Right**
Soft key Left		**Soft key Right**

Help
Cancel

1	2	3
4	5	6
7	8	9
Clear	0	Enter



Note: This type 5 and 6 keypad configuration will support the location of the Help, Cancel and ADA buttons on either side of the numeric keypad.

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Type 7

1	2	3	Pay Here	
4	5	6	Pay Inside	
7	8	9	Yes	No
Clear	0	Enter	Help	Cancel

Type 8

1	2	3	Yes
4	5	6	No
7	8	9	Cancel
Clear	0	Enter	

Type 9

1	2	3	Pay Outside Credit
4	5	6	Pay Outside Debit
7	8	9	Pay Inside Cash
Clear/No	0	Enter/Yes	Cancel

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Type A

1	2	3		Pay Outside Credit
4	5	6		Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type B

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6		Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type C

1	2	3		Pay Outside Credit
4	5	6	Pay Outside Cash	Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

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Type D

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6	Pay Outside Cash	Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type E

1	2	3	Yes
4	5	6	No
7	8	9	Help
Clear	0	Enter	Cancel

Type F

1	2	3	Yes
4	5	6	No
7	8	9	Cancel
Clear	0	Enter	Debit

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Type G

1	2	3	Yes	No
4	5	6	Help	Cancel
7	8	9	Debit	
Clear	0	Enter		

3.3.3. Tokheim RPS

Type 1

1	2	3		Pay Outside Credit
4	5	6	Help	Pay Inside Cash
7	8	9	Cancel	Pay Inside Credit
Clear	0	Enter	Receipt No	Receipt Yes

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Type 2

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6	Pay Inside Cash	Pay Inside Credit
7	8	9	No	Receipt Yes
Clear	0	Enter	Help	Cancel

Type 3

1	2	3		Pay Outside Credit
4	5	6	Pay Inside Cash	Pay Inside Credit
7	8	9	Receipt No	Receipt Yes
Clear	0	Enter	Help	Cancel

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Type 4

1	2	3	Yes
4	5	6	No
7	8	9	
Clear	0	Enter	Cancel

Type 5

1	2	3		Pay Outside Credit
4	5	6		Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

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Type 6

1	2	3		Pay Outside Credit
4	5	6	Help	Pay Inside Cash
7	8	9	Cancel	Pay Inside Credit
Clear	0	Enter	Redeipt No	Redeipt Yes

Type 7

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6	Pay Inside Cash	Pay Inside Credit
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

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Type 8

1	2	3	Pay Outside	
4	5	6		Pay Inside
7	8	9	Yes	Help
Clear	0	Enter	No	Cancel

Type A

1	2	3		Pay Outside
4	5	6		Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type B

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6		Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

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Type C

1	2	3		Pay Outside Credit
4	5	6	Pay Outside Cash	Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type D

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6	Pay Outside Cash	Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type E

1	2	3	Yes
4	5	6	No
7	8	9	Help
Clear	0	Enter	Cancel

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3.3.4. Tokheim

Type 1

1	2	3		Pay Outside Credit	
4	5	6	Pay Inside Cash	Pay Inside Credit	
7	8	9	No	Yes	Start
Clear	0	Enter	Help	Cancel	

Type 2

Pay Inside		Pay Here	
Receipt No		Receipt Yes	
1	2	3	Clear
4	5	6	
7	8	9	Enter
Help	0	Cancel	

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Type 3

1	2	3		Pay Outside	
4	5	6		Pay Inside	
7	8	9	No	Yes	Start
Clear	0	Enter	Help	Cancel	

Type 4

1	2	3		Pay Outside	
4	5	6		Pay Inside	
7	8	9	No	Yes	
Clear	0	Enter	Help	Cancel	

Type 5

1	2	3		Pay Outside Credit	
4	5	6	Pay Inside Cash	Pay Inside Credit	
7	8	9	No	Yes	
Clear	0	Enter	Help	Cancel	

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Type 6

1	2	3	Pay Outside Debit	Pay Outside Credit	
4	5	6	Pay Inside Cash	Pay Inside Credit	
7	8	9	No	Yes	Start
Clear	0	Enter	Help	Cancel	

Type 7

1	2	3	Debit Here	Credit Here	
4	5	6		Pay Inside	
7	8	9	No	Yes	Start
Clear	0	Enter	Help	Cancel	

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Type 8

1	2	3	Pay Outside		
4	5	6		Pay Inside	
7	8	9	Yes	Help	
Clear	0	Enter	No	Cancel	

		Start		

Type 9

1	2	3		Pay Inside	
4	5	6		Pay Here	
7	8	9	No	Yes	Start
Clear	0	Enter	Help	Cancel	

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Type A

1	2	3		Pay Outside	
4	5	6		Pay Inside	
7	8	9	No	Yes	Start
Clear	0	Enter	Help	Cancel	

Type B

1	2	3	Pay Outside Debit	Pay Outside Credit	
4	5	6		Pay Inside	
7	8	9	No	Yes	Start
Clear	0	Enter	Help	Cancel	

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Type C

1	2	3		Pay Outside Credit	
4	5	6	Pay Outside Cash	Pay Inside	
7	8	9	No	Yes	Start
Clear	0	Enter	Help	Cancel	

Type D

1	2	3	Pay Outside Debit	Pay Outside Credit	
4	5	6	Pay Outside Cash	Pay Inside	
7	8	9	No	Yes	Start
Clear	0	Enter	Help	Cancel	

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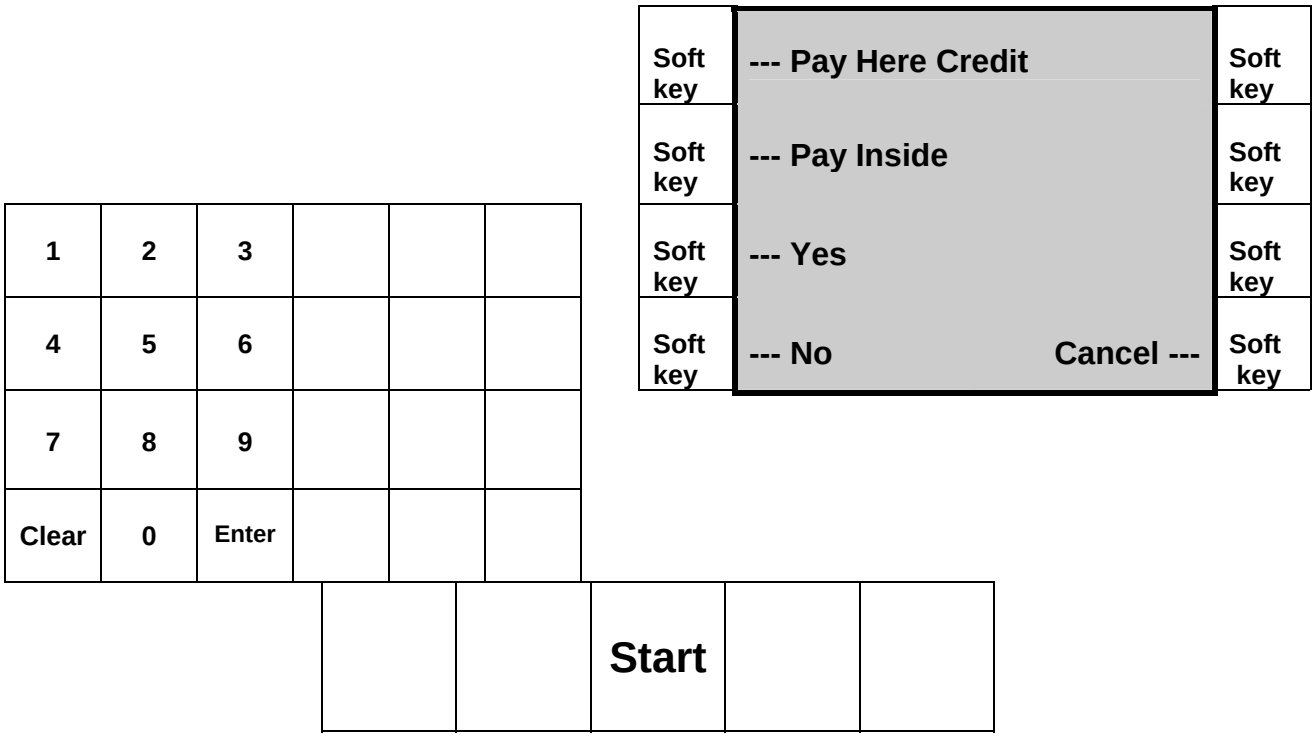
Type E

1	2	3	Yes	
4	5	6	No	
7	8	9	Help	Start
Clear	0	Enter	Cancel	

Type F

(Premier Graphics Keypad – Start button, Soft key, Cancel)
This keypad is supported regardless of keypad setting

Note: Outside Debit and Outside Cash is also supported



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Type G

1	2	3	Outside Credit		
4	5	6	Outside Debit		
7	8	9	Yes	No	
Clear Cancel	0	Enter	Help		

Type H

	1	2	3	Help	YES
	4	5	6	Cancel	
	7	8	9		NO
	Clear	0	Enter		

Type I

1	2	3	Outside Debit	Outside Credit	
4	5	6		Pay Inside	
7	8	9	Yes	Help	
Clear	0	Enter	No	Cancel	

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3.3.5. Wayne

Type 1

1	2	3		Pay Outside Credit
4	5	6	Pay Inside Cash	Pay Inside Credit
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type 2

1	2	3		Pay Outside
4	5	6		Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

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Type 3

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6	Pay Inside Cash	Pay Inside Credit
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type 4

1	2	3	Pay Inside	Pay Outside
4	5	6		
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type 6

1	2	3	Yes
4	5	6	No
7	8	9	Help
Clear	0	Enter	Cancel

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Type 7

1	2	3	Yes
4	5	6	No
7	8	9	
Clear	0	Enter	Cancel

Type 8

1	2	3	Yes
4	5	6	No
7	8	9	Help
Clear	0	Cancel	Enter

Type 9

1	2	3		
4	5	6		
7	8	9	Yes	Help
Clear	0	Enter	No	Cancel

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Type A

1	2	3		Pay Outside Credit
4	5	6		Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type B

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6		Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type C

1	2	3		Pay Outside Credit
4	5	6	Pay Outside Cash	Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

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Type D

1	2	3	Pay Outside Debit	Pay Outside Credit
4	5	6	Pay Outside Cash	Pay Inside
7	8	9	No	Yes
Clear	0	Enter	Help	Cancel

Type E

1	2	3	Yes
4	5	6	No
7	8	9	Help
Clear	0	Enter	Cancel

Type F

1	2	3	Yes
4	5	6	No
7	8	9	Cancel
Clear	0	Enter	Debit

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Type G

1	2	3	Pay Inside	
4	5	6	Pay Outside Credit	Pay Outside Debit
7	8	9	Help	Cancel
Clear	0	Enter	Yes	No

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3.4. Peripheral Devices

3.4.1. Tank Gauge System

The ANDI/SSC uses Channel 13 to interface to the Veeder-Root tank gauge system. The SSC is connected to the Serial board on a TLS 250 or 350, and it may be connected to the DIM board on a 350R.

When the SSC is connected to the DIM board on a TLS 350R it will send real-time fuel transaction data i.e. sale started, sale complete, volume dispensed, meter reading etc. This is accomplished by implementing the Veeder-Root Dispenser Interface Protocol (a proprietary interface defined by Veeder-Root. to the TLS 350R). This will allow the TLS to utilize the AccuChart Automatic Tank Calibration feature for underground storage tank reconciliation.

Configure the TLS-250/350/350R communication parameters as follows:

Baud Rate - 9600, Parity - Odd, Stop Bits - 1, Data Bits - 7

Notes:

On a TLS-250 the communication parameters are set using a rotary switch and some DIP switches, (please refer to the TLS 250 manual).

On a TLS-350/350R the communication parameters are programmed via the TLS keyboard (please refer to the TLS 350/350R manual).

No additional SSC configuration is needed, the SSC will automatically check if it is connected to a DIM card. If not, the SSC will not send any Dispenser Interface commands to the TLS. Communicating with other devices requires POS programming.

To display the TLS link status press the “D” key on the SSC keyboard.

```
CH-13 Link Up
TLS    RS-232 FP
```

Once the SSC detects it is connected to a DIM board the device name changes to TLS-R

```
CH-13  Link Up
TLS-R  RS-232 FP
```

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4. Service

For Technical Assistance Concerning The

Installation / Programming / or Troubleshooting Procedures

After Reading This Manual

Contact

Allied Technical Support Group

1-800-223-3619 (Outside PA Only)

OR

(215) 788-4943

Visit our website at: www.alliedelectronics.com

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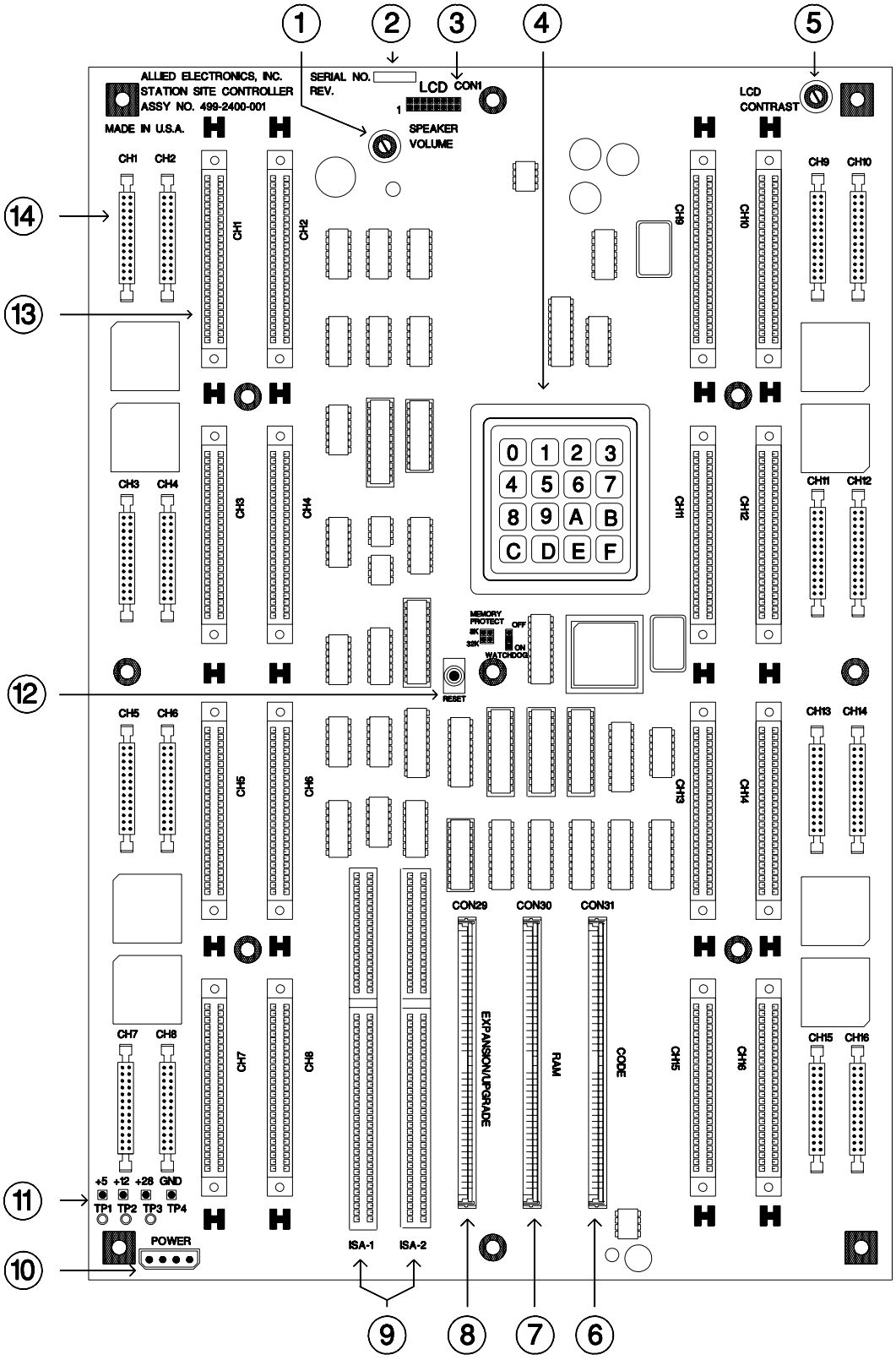
4.1. SSC Diagrams

4.1.1. SSC Main Board



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4.1.2. SSC Main Board Descriptions

1. Speaker Volume Adjustment.
2. Serial Number Location.
3. LCD Ribbon Cable Connector.
4. Keypad for Programming.
5. LCD Display Contrast Adjustment.
6. Code Board SIMM Connector. (Used for Code Board)
7. Ram Board SIMM Connector. (Used for 512K BATRAM Bd.)
8. Expansion/Upgrade SIMM Connector. (Used for additional 512K BATRAM Bd).
9. ISA Slots #1 & #2 (For Future Use).
10. Connector for DC Power Supply
11. Power Supply Test Points & LEDS (+5VDC, +12VDC, +28VDC & GND).
12. Reset Push Button Switch.
13. CH1 - CH16 Card Edge Connectors, for Communication Boards.
14. CH1 - CH16 Ribbon Cable Connectors, for Male DB-25 Connectors.

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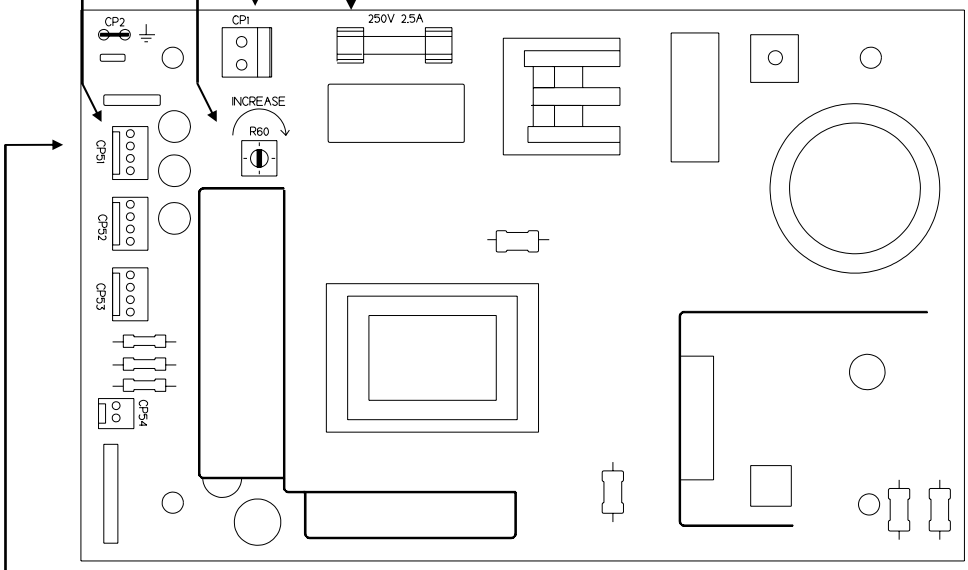
4.1.3. Power Supply (Old style, discontinued)

CP51 - Power Supply Output (+5VDC, GND, +12VDC)
R60 - Potentiometer (To adjust power supply)
CP1 - Power Supply Input (115VAC) ⇒
250V 2.5A Fuse

HOT
NEUTRAL



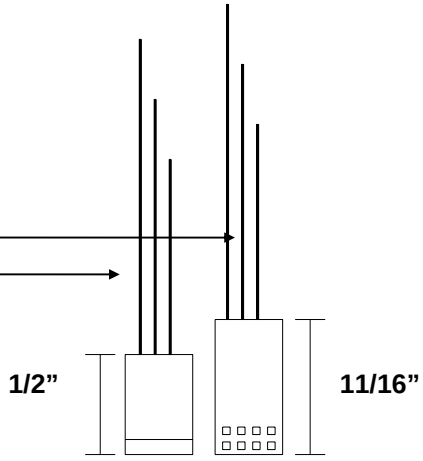
MRW150KV POWER SUPPLY

CP51 - DC Output

+5VDC	Red
GND	Black
+12VDC	Orange
N/C	

Power Supply to SSC Cable

New Style
Old Style



Proper DC Voltages for this power supply

5VDC	5.2 VDC
12VDC	13.5 - 14.7 VDC
28VDC	27.1 - 29.3 VDC

Note: When adjusting voltages, ALL voltages increase/decrease simultaneously, but the 5VDC is the most critical. **Must be set to 5.2 VDC**.

Note: *This old style power supply has been discontinued. It has been replaced by the new style power supply "#MRW160KV".* ***(see below)***

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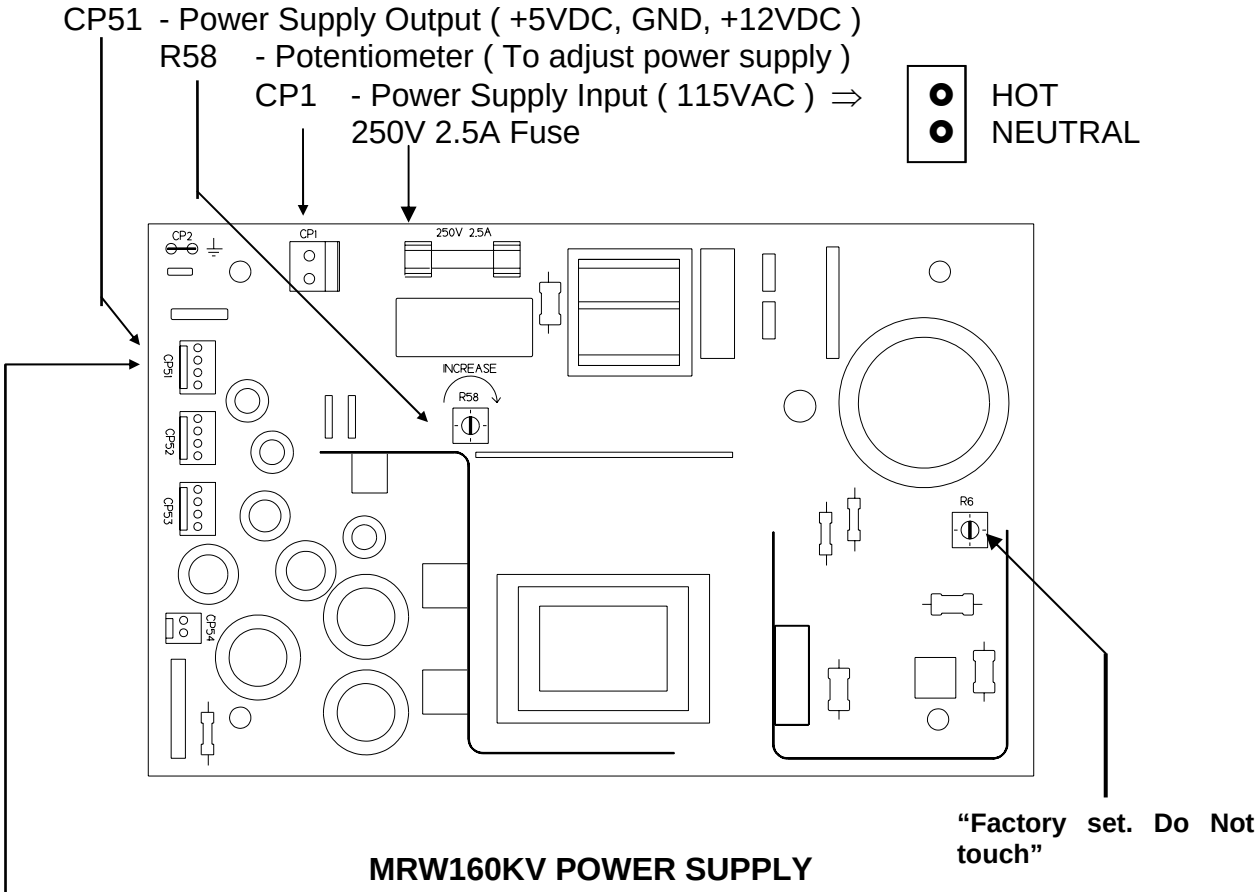
4.1.4. Power Supply (New style)



MRW160KV POWER SUPPLY

CP51 - DC Output

+5VDC	Red
GND	Black
+12VDC	Orange
N/C	

Proper DC Voltages for this power supply

5VDC	5.2 VDC
12VDC	13.5 - 14.7 VDC
28VDC	27.1 - 29.3 VDC

Note: When adjusting voltages, ALL voltages increase/decrease simultaneously, but the 5VDC is the most critical. **Must be set to 5.2 VDC**.

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Procedure for setting the Power Supply Voltage

1). The power supply is located in the lower right hand corner of the SSC enclosure. Remove AC from the unit prior to removing the cage covering the power supply.

2) Leave all communication boards, cables, code and ram boards in place when setting the power supply voltage. It is important to set this voltage to the correct output level while the SSC is under normal load conditions.

3) Locate R60 on the 150KV Model and R58 on the 160KV Model from the "*Power Supply diagrams*" on previous pages, (a blue colored surface-mounted potentiometer). The potentiometer controls all output voltages of the power supply. The 5 volt DC output is the most critical voltage.

4) Set the multi-meter to DC voltage measurement. Using an alligator clip, connect the ground line of the multi-meter to the ground measurement point (TP4) of the SSC main board. The ground measurement point is located on the lower left-hand corner of the SSC main board.

5) Use a small, insulated slotted screw driver to turn the swipe of the potentiometer. To increase the output voltage, turn the potentiometer's adjustable swipe in a clockwise direction. To decrease the output voltage, turn the adjustable swipe in a counter- clockwise direction. Measure the 5 volt line at the 5 v test point (TP1) located in the lower left-hand corner of the SSC main board.

Important: When adjusting the voltage, it is important not to touch any surface or components on the power supply. Doing so can damage the power supply or SSC main board.

6) Adjust the 5V DC output until it reads 5.2VDC.
   12V DC should read in the range of 13.5V - 14.7VDC
   28V DC should read in the range of 27.1V - 29.3VDC

7) Be sure the unit is off before reinstalling the power supply screen. Make sure the rubber grommet of the power supply cable is in the notch of the screen.

Again, be careful not to touch the power supply with the metal screen, to avoid damage to the power supply or SSC main board.

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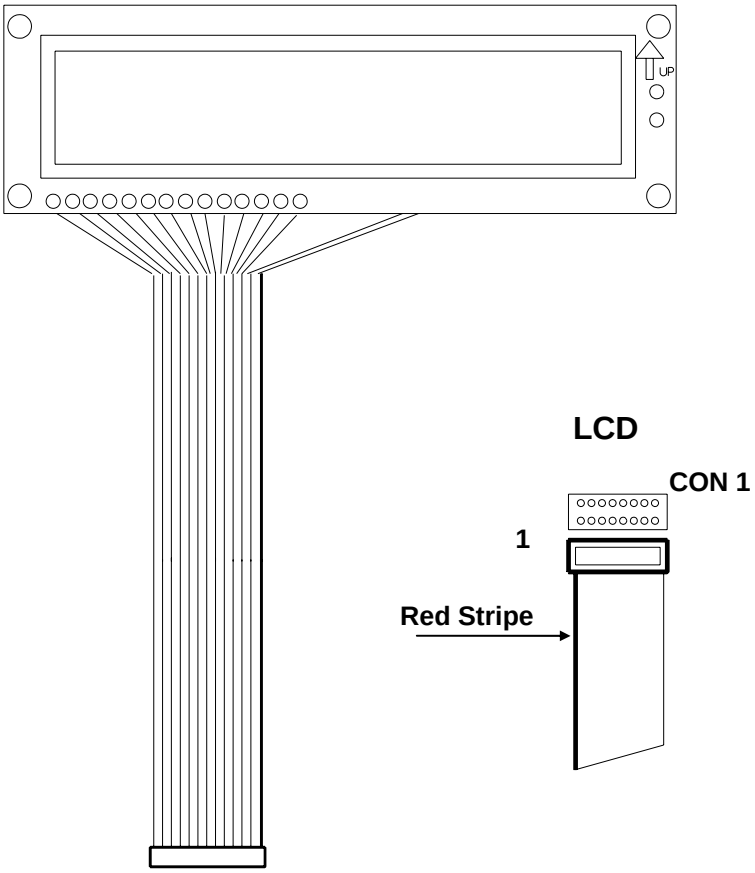
4.1.5. LCD Display



#VC16203TANR LCD Display board with cable

The Liquid Crystal Display (LCD) is used for viewing status messages and programming statuson the SSC. The LCD is connected to the SSC main board at connector CON 1. The proper orientation of the LCD ribbon cable is to have the red stripe on the left hand side of the cable, aligning it with Pin 1 of CON 1 on the SSC main board.

Note:
If the LCD is positioned in any other way, damage may result to the LCD and/or the SSC main board.

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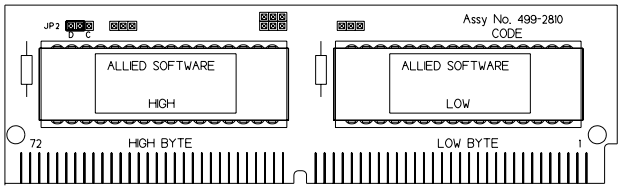
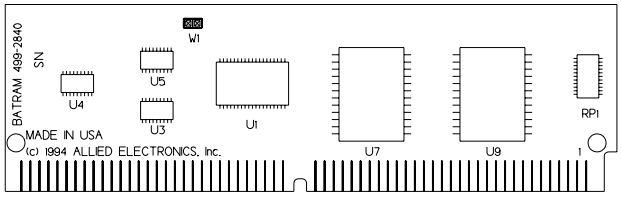
4.1.6. Code & Ram Boards



#499-2810 (1) Code Board

Note: (1) Jumper JP2 - Should jump pin D to center pin.

IMPORTANT: When replacing the Code board the SSC will lose all totals & programming. Configuration must be sent via the POS.



#499-2840 512K Batram Board

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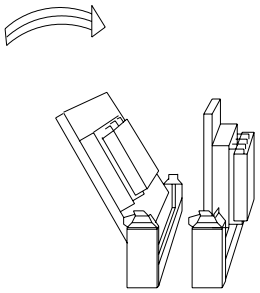

Installation of Code and Ram Boards:

Important: Note that if replacing the Code board the SSC will loose all totals & programming. Configuration must be sent via the POS. Make sure that all totals have been sent to the network. [CH-15 Link Up]

The proper technique to insure correct installation of the Code and Ram Boards is to gently insert the board at an angle into the SIMM connector making sure that the contacts on the board match the contacts in the SIMM connector. Next, push the board towards the right until you feel a light click. The board is now locked into the SIMM connector. **You must always install the Code Board first, followed by the Ram Board**. This is due to the physical relationship of the Code Board to the Ram Board.

Removal of Code and Ram Boards:

To remove the Code Board or Ram Board you must release the metal tabs that lock the boards into the SIMM connectors. Gently push the top tab upwards while simultaneously gently pushing down on the bottom tab. At this point the board will move towards the left, away from its SIMM connector. Remove the board by gently pulling it out of the SIMM connector with your hands at an angle. **You must always remove the Ram Board first, followed by the Code Board**. This is due to the physical relationship between the Code Board and the Ram Board.

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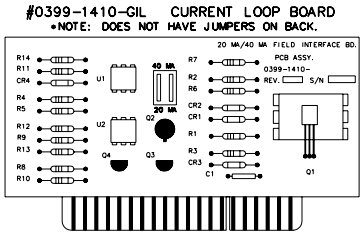
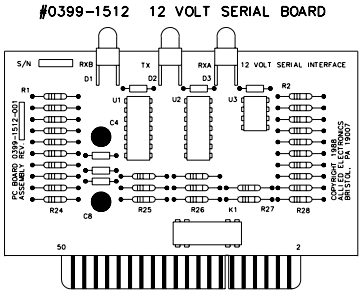
4.1.7. All Communication Boards

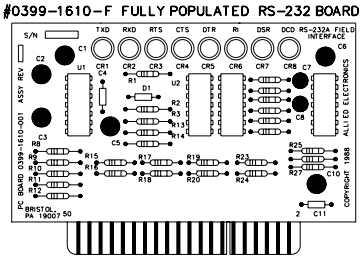
These are all of the possible communication boards that can be used in the Texaco SSC/POS systems.



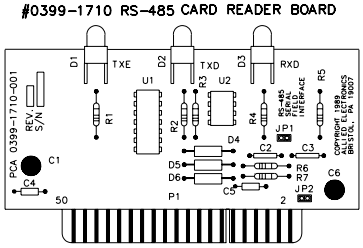
Current Loop Bd.
P/N 399-1410-GIL



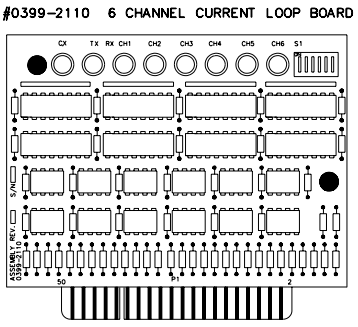
12 Volt Serial Bd.
P/N 399-1512



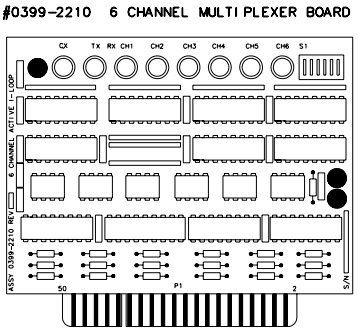
RS232-Fully Populated Bd.
P/N 399-1610-F



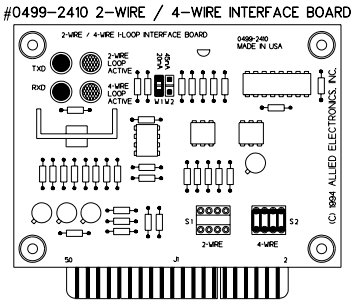
RS485 Mod. Card Reader Bd.
P/N 399-1710-M



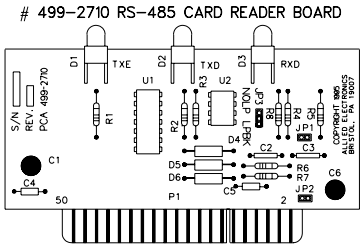
6 Ch. Current Loop Bd.
P/N 399-2110



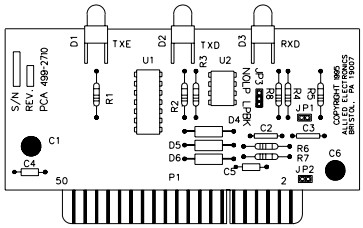
6 Ch. Multiplexer Bd.
P/N 399-2210



2-Wire/4-Wire Interface Bd.
P/N 499-2410



RS-485 Card Reader Bd.
P/N 499-2710



RS-485 Card Reader Bd.
P/N 499-3710

Note:
A more detailed description of each communication board is located in the *"Communication Boards"* section

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4.2. Communication Boards

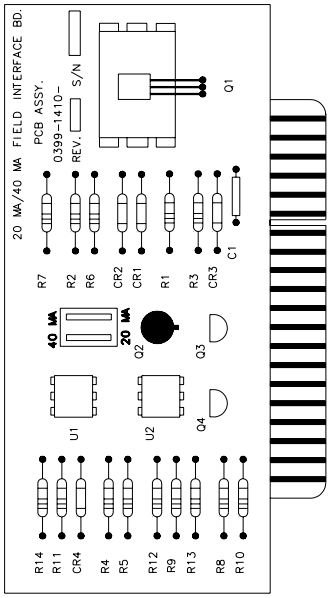
Each communication board has a specific application and may require dip switches to be configured and or jumpers to be positioned for proper operation. To assist service personnel with troubleshooting the SSC Interface, there are LED's on certain communication boards. The correct color of the LED's and their proper sequences are listed below.

Note:
When installing communication boards, the component side MUST face towards center of SSC main board.

4.2.1. Gilbarco Current Loop Board - P/N 399-1410-GIL (Discontinued)

This communication board has a dual application. The first application is used for communicating to Gilbarco dispensers via a Gilbarco Universal or Blue/Black distribution box. The second application is used for communicating to Gilbarco CRIND's via a Gilbarco Universal Distribution Box. There are no LED's on the 40ma Current Loop communication board. There is a two position dip switch which should be pushed down to the 40ma position, which is the side with the numbers one and two printed on it.

Note: This board has been replaced #499-2410



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4.2.2. 12 Volt Serial Board - P/N 399-1512

This board is used for communicating to Tokheim dispensers. The 12 Volt serial board supports up to 2 Distribution boxes per SSC Channel, and may-be installed in Channel 5 or 6.

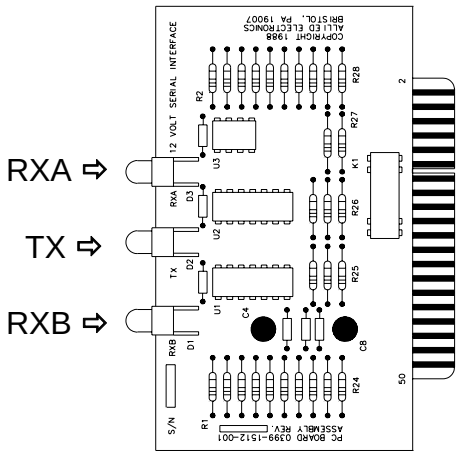
Proper LED sequence for Ch.5 & or Ch.6:

(1) Tokheim distribution box connected.

RXA LED will flicker red
TX LED will flicker red
RXB LED will remain blank

(2) Tokheim distribution boxes connected.

RXA LED will flicker red
TX LED will flicker red
RXB LED will flicker red



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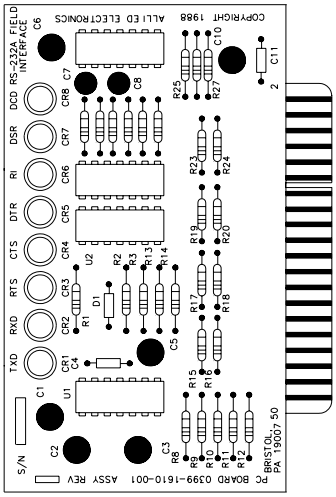
4.2.3. RS-232-F Fully Populated Board - P/N 399-1610-F

This communication board has multiple applications, including Interfaces to the POS, Wayne PIB, Car Wash, Debit, TLS, Price Sign, and the PAD or VSAT.



The RS232 communication board does not have any dip switch or jumper settings.

<u>The proper LED sequence is as follows:</u>

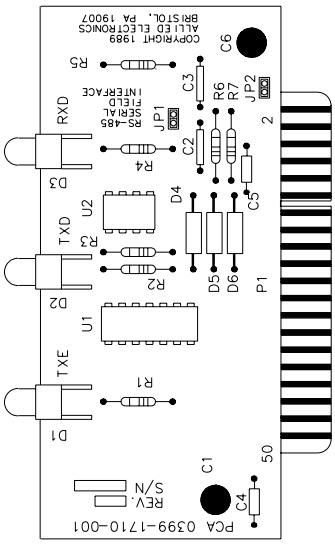
DCD LED	Status N/A
DSR LED	Constantly lit red
RI LED	Status N/A
DTR LED	Constantly lit red
CTS LED	Constantly lit red
RTS LED	Constantly lit red
RXD LED	Constantly lit green and flicker red when data is received
TXD LED	Constantly lit green and flicker red when data is transmitted

4.2.4. RS485 Modified Card Reader Board - P/N 399-1710-M *(Discontinued)*

This communication board has a dual application. The first application is used for communicating to the Tokheim DPT interface. The second application is used for communicating to the Wayne CAT interface. The RS485 communication board does not have any dip switch or jumper settings.

<u>The proper LED sequence is as follows:</u>

RXD LED will rapidly flicker green
TXD LED will rapidly flicker red
TXE LED will flicker yellow



<u>Note:</u>
This board is no longer available. This board was replaced by P/N is 499-2710. **(*Does not interface with the CAT IF board.)***

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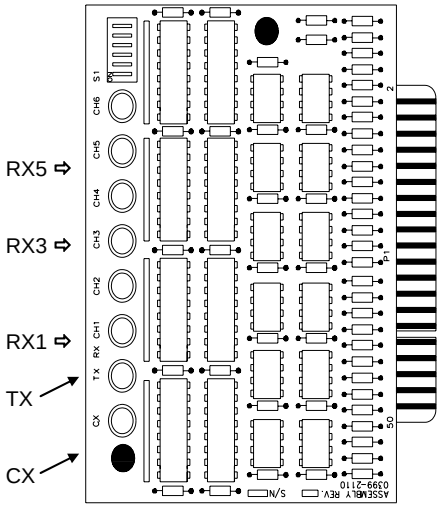
4.2.5. 6 Channel Current Loop Board - P/N 399-2110

This communication board is used for communicating to the Tokheim RPS distribution box for both dispensers and Card Scans. The six Channel Current Loop communication board has a six position dip switch that allows up to six dispensers to be enabled for communication. To enable a dispenser Channel you must slide the switch for that Channel to the "on" position. The following table illustrates the dip switch settings:

Dip Switch Position	Dispenser Address
1	0
2	1
3	2
4	3
5	4
6	5



The proper LED sequence is as follows:

CX Every 10 seconds it will flicker on.
Primarily green with an intermittently flickers red, then turn off . It is off more than it is on.
This is the normal operating sequence.

TX Constantly green with an intermittently flickering red.

RX1 Intermittently flickers green.
Completely blank when disabled.

RX2 Intermittently flickers green.
Completely blank when disabled.

RX3 Intermittently flickers green.
Completely blank when disabled.

RX4 Intermittently flickers green.
Completely blank when disabled.

RX5 Intermittently flickers green.
Completely blank when disabled.

RX6 Intermittently flickers green.
Completely blank when disabled.

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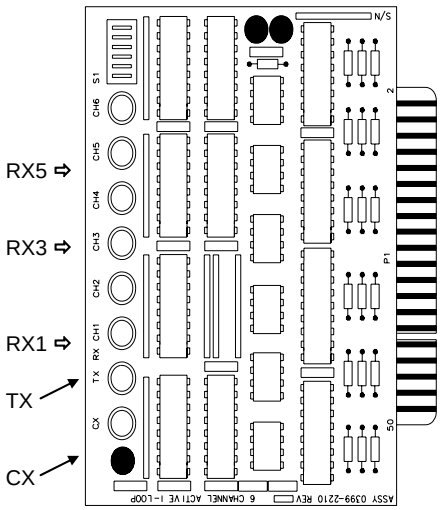
4.2.6. 6 Channel Multiplexer Board - P/N 399-2210

This communication board is used for communicating to the Bennett distribution box for both dispensers and DCAs. The six Channel multiplexer communication board has a six position dip switch that allows up to 6 fueling positions to be enabled for communication. To enable a fueling position Channel you must slide the switch for that Channel to the "on" position. The following table illustrates the dip switch settings:

Dip Switch Position	Fueling Position
1	1
2	2
3	3
4	4
5	5
6	6



The proper LED sequence is as follows:

CX Primarily green flickering red.
TX Primarily green flickering red.
RX1 Constantly flickering red and green when enabled. Completely blank when disabled.
RX2 Constantly flickering red and green when enabled. Completely blank when disabled.
RX3 Constantly flickering red and green when enabled. Completely blank when disabled.
RX4 Constantly flickering red and green when enabled. Completely blank when disabled.
RX5 Constantly flickering red and green when enabled. Completely blank when disabled.
RX6 Constantly flickering red and green when enabled. Completely blank when disabled.

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4.2.7. 2-Wire / 4-Wire Current Loop Board - P/N 499-2410

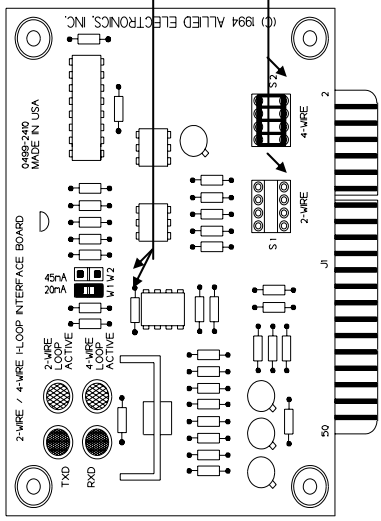
This communication board has two applications.
1. Gilbarco dispensers via a Gilbarco Universal or Blue/Black Distribution Box.
2. Gilbarco CRINDs via a Gilbarco Universal Distribution Box.

There are two steps necessary to verify the communication board is setup correctly.

	Gilbarco
S1 / S2 8 Position Jumper	2 -Wire (S1 on)
W1 / W2 2 Position Jumper	45ma (W2 on)

<u>The proper LED sequence is as follows:</u>

<u>Gilbarco configuration:</u>
2 - Wire Loop Active LED will be constantly lit green.
4 - Wire Loop Active LED will be off.
TXD LED will be flickering red only when transmitting data
RXD LED will be flickering red only when receiving data.



TXD ⇧ ⇧ RXD

***NOTE:** Part number 499-2410 communication board is a direct replacement for part number 399-1410-Gil. The existing units installed in the field <u>do not</u> need to be replaced with this newer version. As of January 1995, the newer version will be the only version available.

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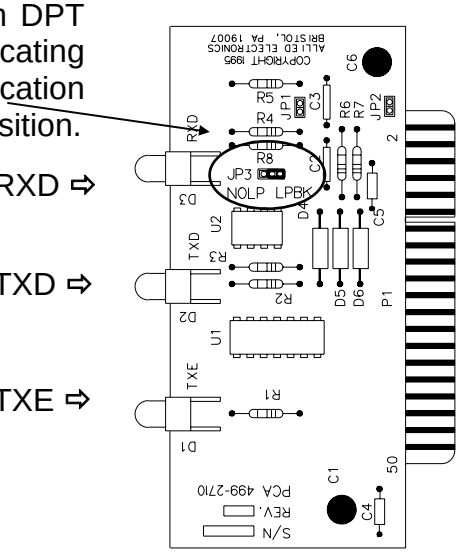
4.2.8. RS-485 Card Reader Board - P/N 499-2710

This communication board has a dual application. The first application is used for communicating to the Tokheim DPT interface. The second application is used for communicating to the Wayne CAT interface. The RS485 communication board has a jumper (JP3) that must be set to LPBK position.



<u>The proper LED sequence is as follows:</u>

RXD LED will rapidly flicker green
TXD LED will rapidly flicker red
TXE LED will flicker yellow

<u>Note:</u>
This board has replaced P/N is 399-1710. ***(Does not interface with the CAT IF board.)***

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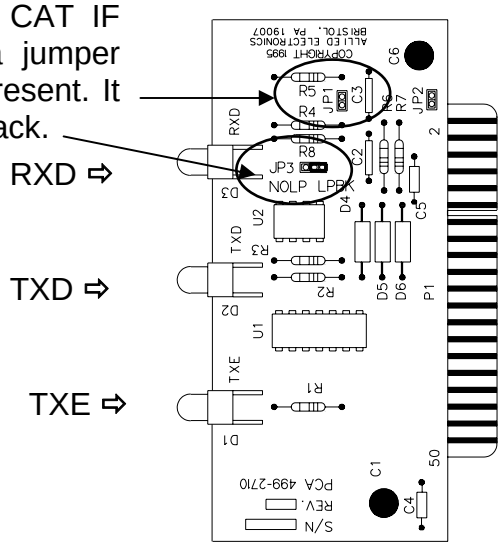
4.2.9. RS-485 Card Reader Board - P/N 499-3710

This communication board has a dual application. The first application is used for communicating to the Tokheim DPT interface. The second application is used for communicating to the Wayne CAT interface, with or without the CAT IF board. The RS485 communication board has a jumper (JP1) that must be installed if a CAT IF board is present. It also has a jumper (JP3) which must be set to loop back.



The proper LED sequence is as follows:

RXD LED will rapidly flicker green
TXD LED will rapidly flicker red
TXE LED will flicker yellow

Note:
This board will be replacing P/N is 399-2710.

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4.3. Cable Pin Assignments

4.3.1. POS Communication Cables

The SSC supports up to 8 POSs. The POS is a PC Based computer which runs the Point-Of-Sale software. The serial port on the POS can be either a DB-25 or a DB-9 connector.

SSC (CH1 - CH4 & CH9 - CH12) To POS (Serial Port) DB-25 Cable

SSC DB25 Female Pins				POS DB25 Female Pins	
TXD	2	Black		3	RXD
RXD	3	White		2	TXD
RTS	4	Green		5	CTS
CTS	5	Red		4	RTS
GND	7	Blue		7	GND
DSR	6	Brown		11	N/C
				20	DTR
DTR	11	Orange		6	DSR
N/C	20				

SSC (CH1 - CH4 & CH9 - CH12) To POS (Serial Port) DB-9 Cable

SSC DB25 Female Pins			POS DB9 Female Pins	
TXD	2	Black	2	RXD
RXD	3	White	3	TXD
RTS	4	Red	8	CTS
CTS	5	Green	7	RTS
DSR	6	Brown	4	DTR
GND	7	Blue	5	GND
DTR	11	Orange	6	DSR

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4.3.2. Bennett Pump and DCA Communication Cable

There is a unique wire pair from the dispenser to the junction box for each fueling point. For example, the wire pair on screws 1(+) and 1(-) are for fueling point 1, and the wire pair on screws 2(+) and 2(-) are for fueling point 2, and so forth.

Each communications Channel (CH5, CH6, CH7 & CH8) supports up to 6 fueling positions. A cable is provided for the connection between the SSC and the Bennett distribution box. One “Dual” or “Triple” cable is required. The cable terminates in a female DB-37, and is defined as follows:

SSC (CH5 - CH7) To the Bennett Cable

SSC/DB25 Female Pins				Bennett/DB37 Female Pins	J-Box Screw #	Fueling Position	DCA #
(CH5) - 1	-----	Black	-----	1	1 (+)	1	1 & 2
(CH5) - 2	-----	White	-----	20	1 (-)	1	1 & 2
(CH5) - 3	-----	Red	-----	2	2 (+)	2	N/A
(CH5) - 4	-----	Green	-----	21	2 (-)	2	N/A
(CH5) - 5	-----	Brown	-----	3	3 (+)	3	3 & 4
(CH5) - 6	-----	Blue	-----	22	3 (-)	3	3 & 4
(CH5) - 7	-----	Orange	-----	4	4 (+)	4	N/A
(CH5) - 8	-----	Yellow	-----	23	4 (-)	4	N/A
(CH5) - 9	-----	Gray	-----	5	5 (+)	5	5 & 6
(CH5) - 10	-----	Purple	-----	24	5 (-)	5	5 & 6
(CH5) - 11	-----	Pink	-----	6	6 (+)	6	N/A
(CH5) - 12	-----	Tan	-----	25	6 (-)	6	N/A
(CH6) - 1	-----	Black	-----	7	7 (+)	7	7 & 8
(CH6) - 2	-----	White	-----	26	7 (-)	7	7 & 8
(CH6) - 3	-----	Red	-----	8	8 (+)	8	N/A
(CH6) - 4	-----	Green	-----	27	8 (-)	8	N/A
(CH6) - 5	-----	Brown	-----	9	9 (+)	9	9 & 10
(CH6) - 6	-----	Blue	-----	28	9 (-)	9	9 & 10
(CH6) - 7	-----	Orange	-----	10	10 (+)	10	N/A
(CH6) - 8	-----	Yellow	-----	29	10 (-)	10	N/A
(CH6) - 9	-----	Gray	-----	11	11 (+)	11	11 & 12
(CH6) - 10	-----	Purple	-----	30	11 (-)	11	11 & 12
(CH6) - 11	-----	Pink	-----	12	12 (+)	12	N/A
(CH6) - 12	-----	Tan	-----	31	12 (-)	12	N/A
(CH7) - 1	-----	Black	-----	13	13 (+)	13	13 & 14
(CH7) - 2	-----	White	-----	32	13 (-)	13	13 & 14
(CH7) - 3	-----	Red	-----	14	14 (+)	14	N/A
(CH7) - 4	-----	Green	-----	33	14 (-)	14	N/A
(CH7) - 5	-----	Brown	-----	15	15 (+)	15	15 & 16
(CH7) - 6	-----	Blue	-----	34	15 (-)	15	15 & 16
(CH7) - 7	-----	Orange	-----	16	16 (+)	16	N/A
(CH7) - 8	-----	Yellow	-----	35	16 (-)	16	N/A

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4.3.3. Gilbarco Pump and CRIND Control Cables

Up to **16 fueling positions** may be connected to the SSC on each dispenser communications Channel (CH5 and CH6). Up To **32 CRINDs** may be connected to the SSC at CH7. Each Channel must have a 2-wire custom cable which terminates in either a 2 pin male CPC (circular plastic connector) a female DB-9 connector or a RJ45 connector.

Pump Control ⇒ **"SSC CH5 and CH6 to Gilbarco D-Box"**
CRIND Control ⇒ **"SSC CH7 to Gilbarco D-Box"**

The connections are as follows:

Pin-1 is jumped to Pin-3 at the SSC end.

Interface board switches should be set to 45 ma/2 wire.

(1) Circular Plastic Connector

SSC (CH5, or CH6) To the Gilbarco (CPC)

SSC DB25 Female Pins			Gilbarco Circular Connector Pins
1 ┐			
3 ┘			
5	Red +		1 +
7	Black -		2 -

(2) DB-9 Connectors

SSC (CH5,CH6 or CH7) To the Gilbarco (Female DB-9)

SSC DB25 Female Pins			Gilbarco DB-9 Female Pins
1 ┐			
3 ┘			
5	Red +		7 +
7	Black -		6 -

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(3) RJ-45 Connectors

SSC (CH5,CH6 or CH7) To the Gilbarco (RJ-45)

SSC DB25 Female Pins			Gilbarco RJ-45 Pins	
1 ┐				
3 ┘				
5	----------	Brown +	----------	7 +
7	----------	Yellow -	----------	6 -

4.3.4. Gilbarco Security Module Cable

The SSC uses Channel 8 to interface to the GSM.

The GSM (Gilbarco Security Module) is required for CRIND systems with debit support.

The serial port on the GSM has a DB-9 connector which is to be connected to Channel 8 of the SSC. The cable pinouts are as follows:

SSC (CH8) To the GSM

SSC DB25 Female Pins				GSM DB-9 Male Pins	
TXD	2	---------- Red ----------		3	RXD
RXD	3	---------- Black ----------		2	TXD
RTS	4	---------- Green ----------		9	CTS
GND	7	---------- White ----------		7	GND
DSR	6 ┐				
DTR	11 ┘				

Note: The GSM cable supplied by Gilbarco will **not** work with the SSC.

The Allied GSM cable shown above must be used. When the Gilbarco Debit option is ordered from Allied a standard 25' GSM/SSC cable will be supplied. See the *"Cable Part Numbers"* section for other available lengths.

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4.3.5. Tokheim RPS Distribution Box

Each communications Channel (CH5 - CH7) supports 1-6 dispensers (1-12 fueling positions with a maximum of 32). There is a unique wire pair for each dispenser. For example, the wire pair on pins 1 and 2 are for dispenser 0, the wire pair on pins 3 and 4 are for dispenser 1, and so forth.

A cable is provided for the connection between the SSC and the Tokheim RPS distribution box. One cable is required for each SSC communications Channel. The cable terminates in a male DB-25, and is defined as follows:

SSC (CH5 - CH7) To the Tokheim RPS Cable

SSC DB25 Female Pins				Tokheim RPS DB25 Male Pins
1	----------	White/Blue	----------	15
2	----------	Blue/White	----------	2
3	----------	White/Orange	----------	14
4	----------	Orange/White	----------	1
5	----------	White/Green	----------	17
6	----------	Green/White	----------	4
7	----------	White/Brown	----------	16
8	----------	Brown/White	----------	3
9	----------	White/Gray	----------	19
10	----------	Gray/White	----------	6
11	----------	Red/Blue	----------	18
12	----------	Blue/Red	----------	5
		Drain	----------	9

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4.3.6. Tokheim RPS Security Module

The SSC uses Channel 8 to interface to the SAM/SSM.

The SSM (Tokheim RPS Security Module) is required for CARDSCAN systems with debit support. It is located inside of the SAM.

Port 2 on the SAM/SSM has a Female DB-9 connector, which is to be connected to Channel 8 of the SSC. The cable pinouts is as follows:

SSC (CH8) To the SAM/SSM

SSC DB25 Female Pins				SAM/SSM DB-9 Male Pins	
Drain	1	Shield		N/C	
TXD	2	White		3	RXD
RXD	3	Red		2	TXD
GND	7	Black		7	GND
	4				
	5				
	6				
	11				

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4.3.7. Tokheim Pump Control (Single)

Up to 2 Tokheim 98 or 67 boxes may be connected on each dispenser communications Channel. Each box must have a 6-wire custom cable which terminates in a 16-position male CPC (Circular Plastic Connector).

This cable connects to CH5 or CH6 and supports up to 16 fueling positions.

Pin-1 (Drain)	Connect to CPC-16
Pin-2 (TxD)	Connect to CPC-2
Pin-3 (RxD)	Connect to CPC-3
Pin-4 (Ground)	Connect to CPC-6
Pin-5 (Em. Stop)	Connect to CPC-10
Pin-6 (Em. Stop)	Connect to CPC-11

SSC (CH5, 6) To the Tokheim Cable

SSC DB25 Female Pins				TOK Circular Connector Pins
1	----------	Sheild	----------	16
2	----------	Brown	----------	2
3	----------	Red	----------	3
4	----------	Blue	----------	6
5	----------	Violet	----------	10
6	----------	White	----------	11

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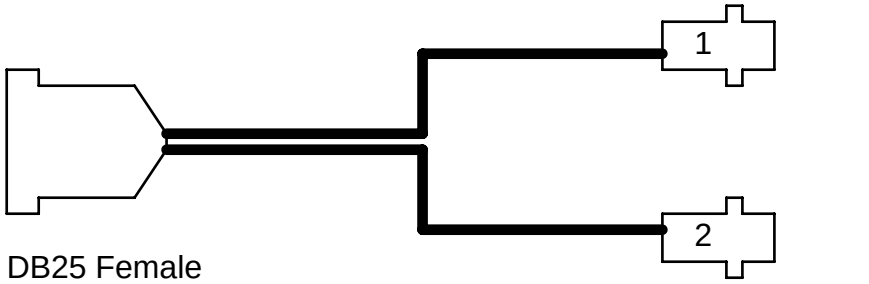
4.3.8. Tokheim Pump Control (Dual)



SSC (CH5 ,6) To the Tokheim Dual Cable (2 Dist. Boxes)

SSC DB25 Female Pins				TOK Circular Connector Pins	
1	----------	Shield	----------	16	
2	----------	Brown	----------	2	
3	----------	Red	----------	3	1st
4	----------	Blue	----------	6	Cable
5	----------	Violet	----------	10	
6	----------	White	----------	11	
7	----------	Shield	----------	16	
8	----------	Brown	----------	2	
9	----------	Red	----------	3	2nd
10	----------	Blue	----------	6	Cable
11	----------	Violet	----------	10	
12	----------	White	----------	11	

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4.3.9. Tokheim DPT

SSC CH-7	69 Interface Box (J1)	Function
Pin 1	Screw 4	Shield
Pin 2	Screw 2	RS 485 +
Pin 3	Screw 1	RS 485 -
Pin 4	Screw 3	Ground

SSC (CH7) To the Tokheim DPT Cable

SSC DB25 Female Pins				Tokheim #69 Box J1 Connector Screws
1	----------	Shield	----------	4
2	----------	White	----------	2
3	----------	Red	----------	1
4	----------	Black	----------	3

Note: up to 32 Tokheim DPTs may be connected to the ssc at ch7. A #18 awg 3 conductor shielded cable rated at 600 volts oil and gas resistant must be used for DPT communication, Allied part #28318sf or equivalent.

Caution: The DPT cable cannot be installed in the same conduit as the intercom cable or high voltage lines. Serious damage to the DPT and or the SSC may result if the cable is not installed properly.

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4.3.10. Wayne PIB/Electronic Central Dispenser Control Cable

The SSC uses a Fully Populated RS232 communication board in Channel 5 to interface to the Wayne PIB/dispensers. Up to 24 fueling positions may be connected. Channel 5 must have a 7-wire custom cable which terminates in a female DB-25 connector.

SSC (CH5) To the Wayne Cable (Female DB-25)

SSC DB25 Female Pins				Wayne/PIB DB25 Female Pins
TXD 2	----------	Black	----------	3 RXD
RXD 3	----------	White	----------	2 TXD
RTS 4	----------	Red	----------	5 CTS
CTS 5	----------	Green	----------	4 RTS
DSR 6	----┬----------	Orange	----------┬----	11 DTR
N/C 8	----┘		└----	20 N/C
GND 7	----------	Brown	----------	7 GND
DTR 11	----┬----------	Blue	----------┬----	8 DCD
N/C 20	----┘		└----	6 N/C

4.3.11. Wayne CAT

Up to 24 Wayne CATs may be connected to the SSC at Channel 7.

SSC (CH7) To the Wayne CAT Cable

SSC DB25 Female Pins				4" X 4" J - Box
1	----------	Shield	----------	Drain
2	----------	Red	----------	RS-485 +
3	----------	Black	----------	RS-485 -

Note: a #18 awg 2 conductor shielded cable rated at 600 volts oil and gas resistant must be used for cat communication, Allied part #28218 or equivalent.

Caution: The CAT cable cannot be installed in the same conduit as the intercom cable or high voltage lines. Serious damage to the CAT and or the SSC may result if the cable is not installed properly.

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4.3.12. Wayne CAT *(With the CAT IF board)*

Up to 24 Wayne CATs may be connected to the SSC via the Wayne CAT IF board which is located inside of the Electronic Central. Channel 7 of the SSC will connect to the Wayne CAT IF board via the DB25 connector which is located on the outside of the EC.

SSC (CH7) To the Wayne CAT IF Cable

SSC DB25 Female Pins				CAT IF/EC DB25 Male Pins
(Shield) 1	----------	Shield	----------	N/C
(+RT) 2	----------	Red	----------	23 (RS-485 +)
(-RT) 3	----------	Green	----------	24 (RS-485 -)
(GND) 3	----------	Black	----------	7 (GND)
(TXENA) 5	----------	White	----------	21 (TX485EN)

Note: when the cat if board is used there is no need to use the #18 awg 2 conductor shielded cable rated at 600 volts oil and gas resistant . The shielded cable which is specified above will be sufficient.

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4.3.13. TLS-250/350/350R or Equivalent Cable

The SSC uses Channel 13 to interface to the Veeder-Root or Equivalent tank gauge systems. Configure the tank gauge communication parameters as follows:

Baud Rate: 9600 Parity: Odd Stop Bits: 1 Data Bits: 7

On a TLS-250, the communication parameters are set using a rotary switch and DIP switches, (please refer to the TLS 250 manual).

On a TLS-350, the communication parameters are programmed via the TLS keyboard (please refer to TLS 350/350R manual).

SSC (CH13) To the Tank gauge Cable

SSC DB25 Female Pins				Tank gauge DB25 Male Pins
TXD 2	----------	Black	----------	3 RXD
RXD 3	----------	White	----------	2 TXD
RTS 4	┐			
CTS 5	┘			
GND 7	----------	Red	----------	7 GND
DSR 6	┐			
DTR 11	┘			

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4.3.14. PAD Cable

The SSC uses Channel 15 and 16 to interface with the Texaco Credit Host Network and with other remote computers via a Codex PAD or Personal Earth Station.

The PAD has to be configured (baud-rate, parity, time-outs, etc.) to properly communicate with the SSC. This is done remotely by Texaco personnel. The SSC does not configure the PAD.

SSC (CH15 & CH16) To the PAD

SSC DB25 Female Pins				Pad DB25 Male Pins
TXD 2	----------	Black	----------	2 RXD
RXD 3	----------	White	----------	3 TXD
RTS 4	----------	Red	----------	4 CTS
CTS 5	----------	Green	----------	5 RTS
DSR 6	----------	Brown	----------	6 DTR
GND 7	----------	Blue	----------	7 GND
DTR 11	----------	Orange	----------	20 DSR

4.3.15. VSAT Cable

The SSC uses Channel 15 to interface the Hughes Satellite System with the Texaco Credit Host Network. The Personal Earth Station (PES) has two connection boxes connected to it. The 1st box is labeled “Port 1” thru “Port 4” and the 2nd box is labeled “Port 5” thru “Port 8”. SSC CH-15 connects to “Port 1”.

SSC (CH15) To the VSAT Cable

SSC DB25 Female Pins				VSAT DB25 Male Pins
TXD 2	----------	Black	----------	2 RXD
RXD 3	----------	White	----------	3 TXD
CTS 5	----------	Red	----------	8 DCD
DSR 6	----------	Green	----------	6 DTR
GND 7	----------	Brown	----------	7 GND
DTR 11	----------	Blue	----------	20 DSR

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4.4. Technical Tips

4.4.1. Power-Up Diagnostics

1. In order for the software to start working, the code board must be properly installed and the RAM board must be functional. If after power-up the SSC display (LCD) shows black boxes on the upper line and blanks on the lower line, the software is not running properly. Try re-seating the boards and verify the PROMs are also seated properly. See *"Code & Ram Boards"* in SSC Diagram section.

a. After power-up or system reset (caused by pressing the reset button or by the software generating a reset) the SSC software will initialize the hardware and run internal diagnostics before starting the application program. To indicate the software is active, the SSC will display the following:

[SSC System Reset]
[Initializing .....]

b. Next, the SSC will run a main board check. If the test fails (Main Board not upgraded) the SSC will display the following:

[SSC Brd Rev. Err]
[SSC System Halt]

If the ROM test fails the SSC will halt processing. To correct the problem install a new code board with properly programmed PROMs. See *"Code & Ram Board"* in SSC Diagram section.

c. Next, the SSC will perform a ROM checksum. If this test fails (ROM program corrupted) the SSC will display the following:

[ROM Checksum Err]
[SSC System Halt]

When the ROM test fails the SSC will halt processing. To correct the problem, install a code board with properly programmed PROMs. See *"Code & Ram Board Diagram"* in SSC Diagram section.

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d. Next, the SSC will move on to the RAM test. This test is used to verify if the proper RAM board is installed. If this test fails one of the following messages are displayed:

[Exp Board Error]	or	[BATRAM Board Err]
[SSC System Halt]		[SSC System Halt]

Possible causes of a "Exp Board Error":

- The wrong type of RAM board is installed in the Expansion connector.
- The board in the Expansion connector is defective.

Possible causes of a "BATRAM Board Error":

- The wrong type of RAM board is installed in the RAM connector.
- The BATRAM board is not fully populated, i.e. it is a 256 kb BATRAM board instead of the required 512 kb BATRAM board.

e. Next, the SSC will test the integrity of its internal data files (stored in 512K BATRAM board). If these files are corrupted the SSC will force an Init Mem All (data will be lost). If the data appears to be in good shape the SSC will perform a warm start, i.e. no data is lost.

[T?NvvrrS-BCDLSTW]	or	[T?NvvrrS-BCDLSTW]
[SSC Init Mem All]		[SSC Warm Start]

f. After all tests have passed all application tasks are started, serial communication links are activated and the SSC is ready for standard operations.

2. Verify the power supply voltages are correct.
See *"Power Supply Diagram"* in SSC Diagram section.

a. 5VDC	5.2 VDC
b. 12VDC	13.5 - 14.7 VDC
c. 28VDC	27.1 - 29.3 VDC

3. Verify, <u>while the power is off</u>, that all communication boards are securely seated into their respective card edge connectors. There is the possibility that communication boards can become dislodged from their respective card-edge connectors due to shipping.

4. Verify that all prelabeled communication cables are plugged into the correct Channels on the SSC, POS , and all dispenser electronics. See *"Configuration Diagrams"* section for your configuration.

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5. Verify that all configuration options are properly programmed.
   See your POS manual for programmming options.

6. If all else fails, perform Init Mem Dis. See *"System Start-Up Mode"* on next page.

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4.4.2. Memory All vs. Memory Dispenser

What is the difference between a Memory All and a Memory Dispenser?

A **Memory All** will erase all internal data and configuration including:

* Dispenser Configuration
* DPT configuration
* Tank gauge configuration
* Credit Host configuration
* Stored Card transactions
* All stored totals and reports
* Software configuration options
* Current transactions

A **Memory Dispenser** will erase all Dispenser and DPT related data elements including:

* Dispenser modes
* Dispenser product assignments
* Product prices
* Cash/Credit preset limits
* Current transactions

When to invoke a Memory All versus a Memory Dis?

Memory All

A Memory All should be performed:

1. When a SSC software change occurs (Code Board).
2. When a RAM board is replaced.

Memory Dis

A Memory Dis should only be performed:

1. When a problem cannot be solved, after all hardware possibilities have been exhausted.

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4.4.3. Performing Memory All , Memory Dis or Normal Start

1. Press and release the SSC Red reset button. The display will change to

   [SSC System Reset]
   [Initializing .....]

2. While display reads Initializing, hold down any key on the SSC keypad until display reads Release key.

   [SSC System Reset]
   [Release key .....]

3. After releasing the key the upper display line shows:

   [Select Option]
   [1 = Select Mode]
   [0 = Exit Menu]

Press 1 to get to [Enter Start Mode]

The lower display line will toggle between the following options:

[1 = Init Mem All]
[2 = Init Mem Dis]
[3 = Normal Start]

4. a. Press "1" to force a Memory All clear (all memory will be re-initialized).
   b. Press "2" to Memory Dis. (re-initialize all Dispenser and CRIND related data).
   c. Press "3" to select a Normal Start / Warm Start (no data lost).

If you select option "1" or "2" the SSC will prompt for confirmation. It will display one of the following messages:

[SSC Init Mem All]	or	[SSC Init Mem Dis]
[0 = No, 1 = Yes]		[0 = No, 1 = Yes]

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5. Press "0" to return to the previous menu (step c).

Press "1" to confirm your selection. The SSC will show one of the following displays:

```
[SSC Init Mem All    ]  or  [SSC Init Mem Dis   ]  or  [SSC Warm Start    ]
[Initializing.....   ]      [Initializing.....  ]      [Initializing.....  ]
```

After completing the SSC initialization the display will change to one of following screens:

```
[T?NvvrrS-BCDLSTW]  or  [T?NvvrrS-BCDLSTW]  or  [T?NvvrrS-BCDLSTW]
[SSC Init Mem All ]     [SSC Init Mem Dis ]     [SSC Warm Start   ]
```

The upper line shows the program name and version/revision information. The letters appearing after the "-" indicate which program features are available.

The lower line shows the start-up mode

6. After performing a Memory All or Memory Dis you should when send the SSC configuration to the SSC from the POS.

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4.4.4. Display System Information

Using the SSC keyboard, one can enter a password to access the SSC System Information menu. The password is "321". After entering the password the SSC displays the following:

Select Option

0 = Exit Menu

1 = System Info
- *Last status*
- *RAM battery status*
- *SSC board Rev.*

2 = Program Info
- *All Allied module versions*

3 = Idle Status
- *Site state: Idle or not*

Note: If the Idle Status menu shows “System Not Idle”, press the ‘1’ key to display further detail regarding the part of the system that is reporting the ‘not idle’ condition.

4 = Init Modem (Initialize Modem, channel 16)
0 = No
1 = Yes (Places modem in auto-answer mode)

Note: *Channel 16 is connected to the PAD or the VSAT in all of the “T?NS” versions, therefore function 4 is not used.*

5 = Load Status (Program load status. Whether the SSC is able to receive downloads)
- *Ready for load*
- *Bad RAM*
- *Not enough RAM*

6 = Debit Status
- *Link down (Communication problem)*
- *No Master Key in module (Security module not programmed correctly)*
- *No Session Key (Security module not programmed correctly)*
- *Debit not in use (Not configured for Debit)*

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4.4.5. Display Channel Information

Using the SSC keyboard one can select a Channel for which to display the current status. The displayed information includes the Channel status, the Channel device and expected interface board type. Press 1 to select Channel 1, 2 for Channel 2, etc., A=CH10, B=CH11, C=CH12, D=CH13, E=CH14, F=CH15 and 0=CH16.
The displayed information uses the following format:

[CH-XX CH-Status]
[Dev Comm Board]

CH-XX: Channel number, XX will be replaced with the selected Channel (01 - 16).

CH-Status: Refer to *"Link Status Messages"* in the Problems and Solutions section.

Dev: The device field contains an acronym for the expected external device.

Examples:

POS	Point Of Sale terminal
DIS	Dispenser
DPT	Dispenser Payment Terminal
TLS	Tank Level System
FPS	Fuel Price Sign
TCH	Texaco Credit Host
RNA	Remote Network Application

Comm Board: This field contains the name of the interface board required for this Channel.

Examples:

Comm Board	Part #	Description
CL 2W 45ma	399-1410-Gil	Current Loop, 2 Wire, 45ma (Gilbarco)
Tok UDC	399-1512	Tokheim UDC, 12V Serial Interface
RS-232 FP	399-1610-F	RS-232 (Fully Populated)
RS-485	499-2710	RS-485 board
RS-485	499-3710	RS-485 board (Required with CAT IF board)
CL 6-CH	399-2110	Current Loop, 6 Channel (Tokheim RPS)
CL 6-CH A	399-2210	Current Loop, 6 Channel (Bennett)
CL 2W 45ma	499-2410	Current Loop, 2 Wire, 45ma (Gilbarco)

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4.4.6. SSC Diagnostic Messages

The SSC idle display, before the date/time has been configured, is as follows:

```
[T?NvvrrS-BCDLSTW   ]
[PGM: MMM DD YYYY]
```

The first line shows the program version and available features. The second line shows the program date (Example: PGM: Jan 15 1995).

The SSC date/time is programmed via messages from the POS or Credit Card Host. The idle display after receiving the first date/time message is as follows:

```
[T?NvvrrS-BCDLSTW ]
[01/15/95 10:35AM    ]
```

On start-up, the SSC marks all communication links with external devices as being down. When a status change occurs, the SSC displays a diagnostic message using the following format:

```
[T?NvvrrS-BCDLSTW ]
[CH-XX     CH-Status ]
```

When no other status change occurs within 15 seconds the SSC will return to its default display, showing the current date/time.

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4.4.7. Card Reader Diagnostics

When the Card Reader is idle (i.e. scrolling SELECT PAY-INSIDE etc...) use the Card Reader <CLEAR> key to display the Card Reader status. When no error is found the display will show “SYSTEM OK”.

Below is the list of possible diagnostic messages on Card Reader display:

- PRINTER PAPER LOW
- PRINTER PAPER JAM
- PRINTER OUT OF PAPER
- PRINTER FAILURE
- BILL JAMMED
- CASSETTE REMOVED
- CASSETTE FULL
- CASH ACCEPTOR ERROR
- CAN’T PROCESS PIN
- DEBIT UNAVAILABLE
- SYSTEM OK

After correcting the problem press <CLEAR> again to check if the problem was fixed. When no error is found the display will show “SYSTEM OK”.

Note: For printer related error messages you have to press the <CLEAR> key several times to get an updated printer status.

Note: The SSC may not allow a Cash Acceptor sale to begin when a PRINTER OUT OF PAPER, PRINTER PAPER JAMMED or PRINTER FAILURE condition exists. (This is a programming option).

4.4.8. TLS Diagnostics

The SSC will automatically check if it is connected to a DIM card. If not, the SSC will not send any Dispenser Interface commands to the TLS. This allows the SSC to use the same software at all stations (TLS-250, TLS-350 and TLS-350R).

To display the TLS link status press the “D” key on the SSC keyboard.

```
CH-13  Link Up
TLS    RS-232 FP
```

Once the SSC detects it is connected to a DIM board the device name changes to TLS-R

```
CH-13  Link Up
TLS-R  RS-232 FP
```

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4.4.9. Software Cross Reference Charts

"Software Cross-Reference Charts"

The attached cross-reference charts list the software version requirements for the Allied SSC interface boxes, as well as Bennett, Gilbarco, Tokheim RPS, Tokheim and Wayne dispensers and in dispenser card readers.

The charts included the most popular dispenser models with a diversity of options. In addition, the chart includes each manufacturer's part number for the appropriate computer/logic board.

These charts should not be used as an indiscriminate software replacement and or upgrade program. All of the software variations and variables may not be identified in these charts. Service personnel should not "fix" equipment which is trouble free in order to satisfy the software version requirements. Allied strongly recommends that the service personnel contact Allied and/or the appropriate dispenser manufacturer's Help Desks before replacing software.

The following is a description of the software version names.

Example: "TGN0512 S-BCDLSTW"

T	**T**exaco
G	**Gilbarco**
N	**N**etwork (ANDI)
05	Version 05
12	Revision 12
S	**S**SC
B	**B**ill acceptor
C	**C**ard reader capability
D	**D**ebit capability at the Card reader
L	Down **L**oad feature
S	Price **S**ign
T	**T**ank Gauge
W	**W**ash (Car Wash)

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4.4.9.1. Bennett Dispenser and DCA Software versions

Dispenser Model	Software Version
7000 (without DCA)	???
8000 (without DCA)	???
9000 (with or without DCA)	???
Horizon (with or without DCA)	???

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4.4.9.2. Gilbarco Dispenser and CRIND Software versions

Gilbarco Dispenser Model		Version Pre-optimized	Version Optimized	Encore 300	Encore 500 & Eclipse
H111B, MPD-A3 MPD-1 with Z-80 logic board		10.5 -10.8	N/A	N/A	N/A
MPD-2		24.0, 25.0, 28.0, 25.2, 28.0	N/A	N/A	N/A
H111B, MPD-A3 with 8080 logic board		1 & 2, 3, 4 & 5	N/A	N/A	N/A
H111B, MPD-A3 with Z-80 logic board		10.5 -10.8	N/A	N/A	N/A
Modular: MPD-1, MPD-3, H111B		53.6, 53.7, 53.5	N/A	N/A	N/A
Modular: MPD-3		54.3.10	N/A	N/A	N/A
Advantage: **MPD 2 grade** **MPD 3 grade** **MPD 4 grade** **Quad 2 grade** **Dual 2 grade**	**Model:** **B02/B03/B12/B13** **B04/B05/B14/B15** **B06/B07** **B42/B43/B52/B53** **B20/B21/B30/B31**	70.8.9	30.0.6	20.0.2	01.5.40
1 hose MPD: **3 grade (3+0)** **4 grade (4+0)**	**Model:** **B84/B85/B94/B95** **B86/B87**	72.2.9	32.0.6	22.0.5	01.5.40
Fixed Blender: **3 grade, 6 hs**	**Model:** **B64/B65**	**77.4.3**	37.1.4	27.0.5	01.5.40
Selec Blender: **3 gr 1 hs (3+0)** **4 gr 2 hs (3+1)**	**Model:** **B78/B79/B7A/B7B/B7E/ B7F/B7G/ B7H/B7K/B7L/ B7N/B7O/BAA/ BAE/BAG/BAK** **B71/B7C/B7D/B7J/B7M/ B7P**	75.5.6	35.3.2	25.1.4	01.5.40

Gilbarco CRIND	Version	Features
Generic **Modular and Advantage**	51.1.6 or 60.4.40	Debit, Cash Acceptor
Generic **Advantage and Encore 300**	60.4.40	Debit, Cash Acceptor
Dual Head Card Reader (Canada Only) **Advantage and Encore 300**	62.4.60	Smartpad
Generic **Advantage and Encore 300**	70.3.30	Debit, Cash Acceptor, TRIND
Encore 500 and Eclipse	2.0.30	Debit, TRIND, Scanner

Note: Gilbarco has recommended that these software versions (or newer) should be used with the corresponding Dispenser and CRIND models.

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4.4.9.3. Tokheim RPS / Tokheim Dispenser and CardScan Software versions

Dispenser Model	Software Version
All Model #4000 (Including truckstop)	0130.04.15
Centurion	1000.05.04

4.4.9.4. Tokheim Dispenser and DPT Software versions

Tokheim Dispenser Model	Software version
262A	FS.03.00.OV
262A (High Volume)	GS.04.10.00
262A (Fleet operation)	LR.01.05.00
333BSA & TCS	FS.03.00.OV
TCSA	IB.02.00.00
Premier B	JN.04.12.00 or QM.01.01.00
Premier B (ATC)	ND.02.00.00
Premier B (International)	MK.04.12.00
Premier C	QQ.03.03.00
Premier C (High Volume)	RA.01.01.00
Premier C (ATC)	QZ.01.00.09
Premier C (International)	QV.01.02.00
Premier IQ / Harmony	1500.01.07

Tokheim DPT	Software version
Standard (Credit only)	JP.02.21.00
Standard w/ TDS (TED)	MT.QD.05.01
Standard w/ TDS Plus	MT.03.03.00
Insight	MT.PQ.06.03

Note: Tokheim Corporation has recommended that these software versions (or newer) should be used with the corresponding Dispenser and DPT models.

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4.4.9.5. Wayne Dispenser and CAT Software versions

Wayne Dispenser Model	Software Version
DL3/390	24, 29 or 30
Standard Vista	49.00
Enhanced Vista	13.00
IGEM	31.00

Wayne CAT	Software Version
Standard Legacy CAT	13.00 or 58.00
Enhanced Legacy CAT	64.00
Dual CAT Dual CAT BCB	103.00 5.10

Wayne PIB & CPU	Software Version
PIB (1200 or 9600 baud)	37000 or 39000
2400 CPU	49.29 or 49.37

Notes: ***Wayne Dresser has recommended that these software versions (or newer) should be used with the corresponding Dispenser, CAT, PIB and CPU models.***

As per Wayne's instructions, CPU versions 49.32, 49.34 and 49.35 cannot be used.

CPU version 49.37 & PIB 39000 must be used for the "Dynamic pricing" feature.

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4.4.9.6. ANDI Software versions

For an up to date list of the ANDI software versions, please visit our website at:

www.AlliedElectronics.com

Go to: “Technical Info” > “Software Release Notes”

http://www.alliedelectronics.com/software_release_notes.htm

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4.5. Problems and Solutions

4.5.1. Channel Status Messages

The following messages are used for the various serial interfaces. The XX in the display messages represent the associated Channel number.

a. [CH-XX Not In Use]

This version of SSC software does not use this Channel.

b. [CH-XX CTS/DSR Dn]

Both CTS and DSR signals are down. Possible causes are:
- External device is not raising RTS and DTR (it is not running)
- Cable problem (disconnected, pin-out error, broken wire, etc)
- Interface board problem (not installed, wrong board, board error)

c. [CH-XX CTS/DSR Up]

Both CTS and DSR signals have been restored.

d. [CH-XX DSR Down]

The DSR signal is down. Possible causes are:
- External device is not raising DTR (it is not running)
- Cable problem (disconnected, pin-out error, broken wire, etc)
- Interface board problem (not installed, wrong board, board error)

e. [CH-XX DSR Up]

The DSR signal has been restored.

f. [CH-XX CTS Down]

The CTS signal is down. Possible causes are:
- External device is not raising RTS (it is not running)
- Cable problem (disconnected, pin-out error, broken wire, etc)
- Interface board problem (not installed, wrong board, board error)

g. [CH-XX CTS Up]

The CTS signal has been restored.

h. [CH-XX Loop Error]

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For some interface boards the SSC expects to receive an echo of each character that is transmitted. When this fails we have a loop error.

Possible causes:
- Cable problem (disconnected, pin-out error, broken wire, etc)
- Distribution Box problem
- Device problem (e.g. a dispenser is down)
- Interface board configured wrong

i. [CH-XX Rx TimeOut]

Receive Time Out: This message is displayed when the external device doesn't return the proper response to the SSC (e.g. no ACK, no NAK etc.)

Possible causes are:
- External device ignores SSC (busy or locked up)
- Cable problem (pin-out error on Receive Data and/or Transmit Data)

j. [CH-XX Rx Parity]

Receive Parity Error: A parity error occurred while receiving a message from the external device. The message is discarded, usually this error will be corrected.

On dispenser or card reader Channels this error can occur when two or more devices have been addressed the same.

k. [CH-XX Rx Framing]

Receive Framing Error: A framing error occurred while receiving a message from the external device. The message is discarded, usually this error will be corrected.

On dispenser or card reader Channels this error can occur when two or more devices have been addressed the same.

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l. [CH-XX Await Cnfg]

Await Configuration: The SSC is waiting to be configured before this Channel becomes active. Example: The dispenser Channels are not active until the POS has configured the dispensers.

m. [CH-XX Await Strt]

Await Start: The SSC is waiting for the external device to respond to a start-up request. Example: As part of the configuration process the POS sends credit network parameters to the SSC. After receiving these parameters the SSC will issue a Network Start-Up request to the Credit Card Host. The SSC will not send any other messages to this Channel until the Credit Card Host has accepted the Start-Up message.

n. [CH-XX Link Up]

Normal state, the Channel is up and running. No errors have been detected.

o. [CH-XX Disabled]

The interface provided via this Channel has been disabled, i.e. this SSC program doesn't support this device. Call technical support to order a program with this feature enabled.

p. [CH-XX Port Error]

The SSC was unable to access the serial port device. This can occur when there is a problem found with a Channel on the main board.

q. [CH-XX Log Off]

The external device has logged off, i.e. it informed the SSC that it was (temporarily) going down. Example: Exit the POS program and go to the DOS prompt.

r. [CH-XX Device Ver]

The external device is running an incompatible software version. To correct this problem upgrade the device to the appropriate software version and/or revision and restart the device.

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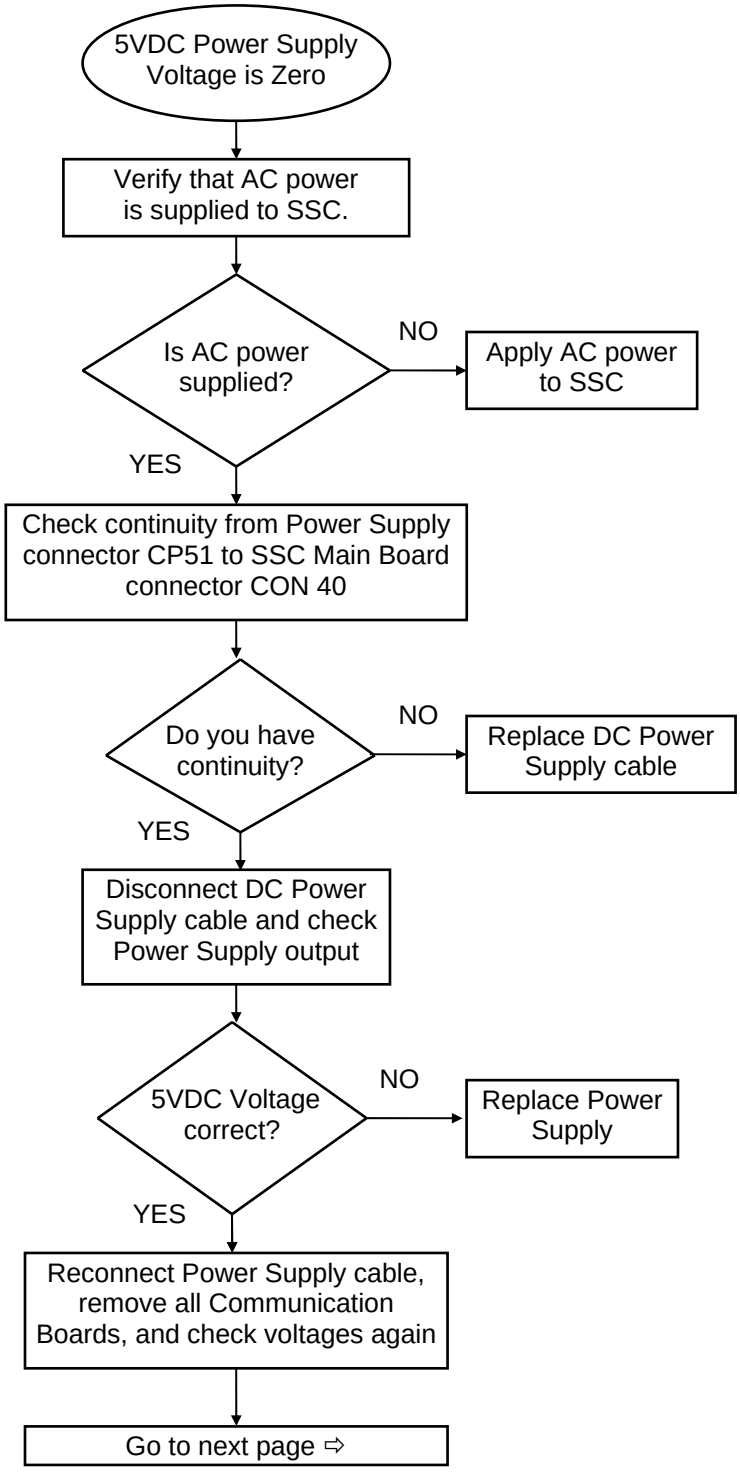
4.5.2. 5V Power Supply Voltage



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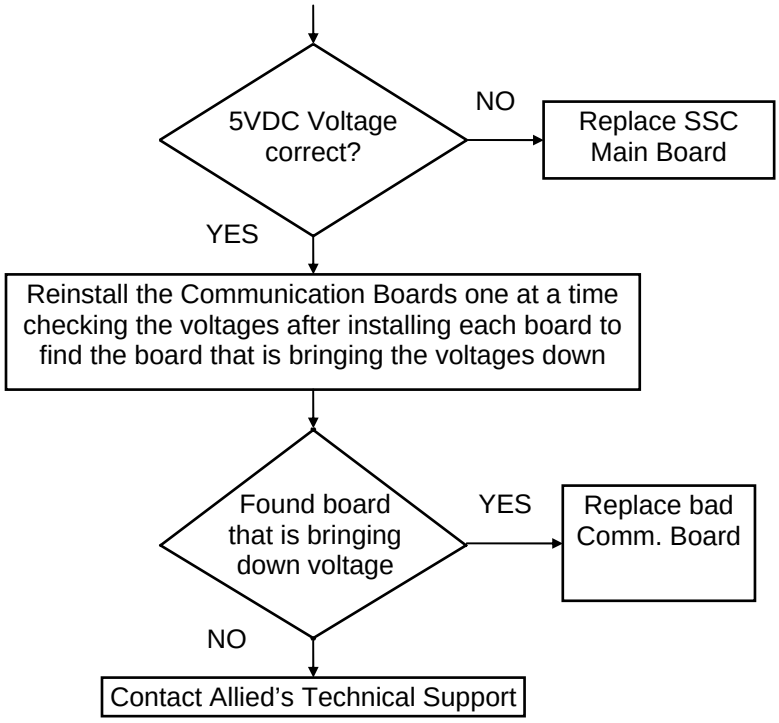

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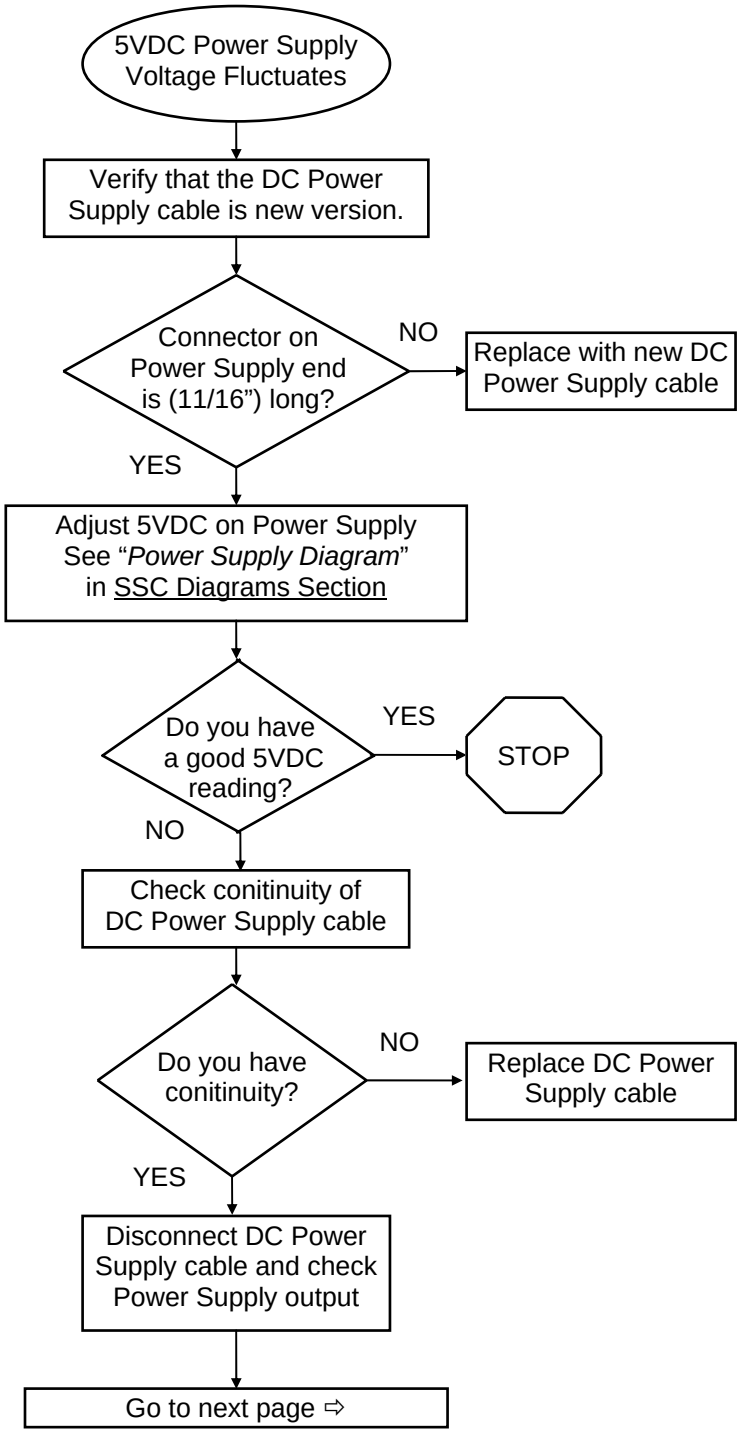
5V Power Supply Voltage fluctuates anywhere from 4.0V to 5.0V.



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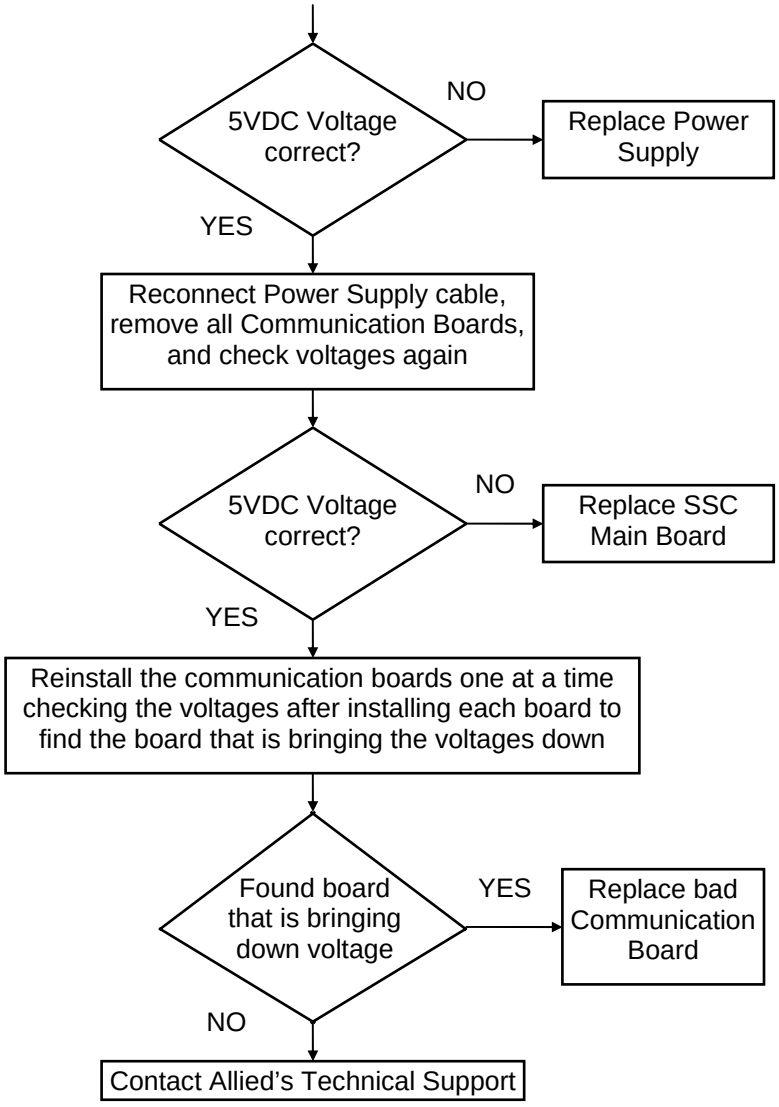

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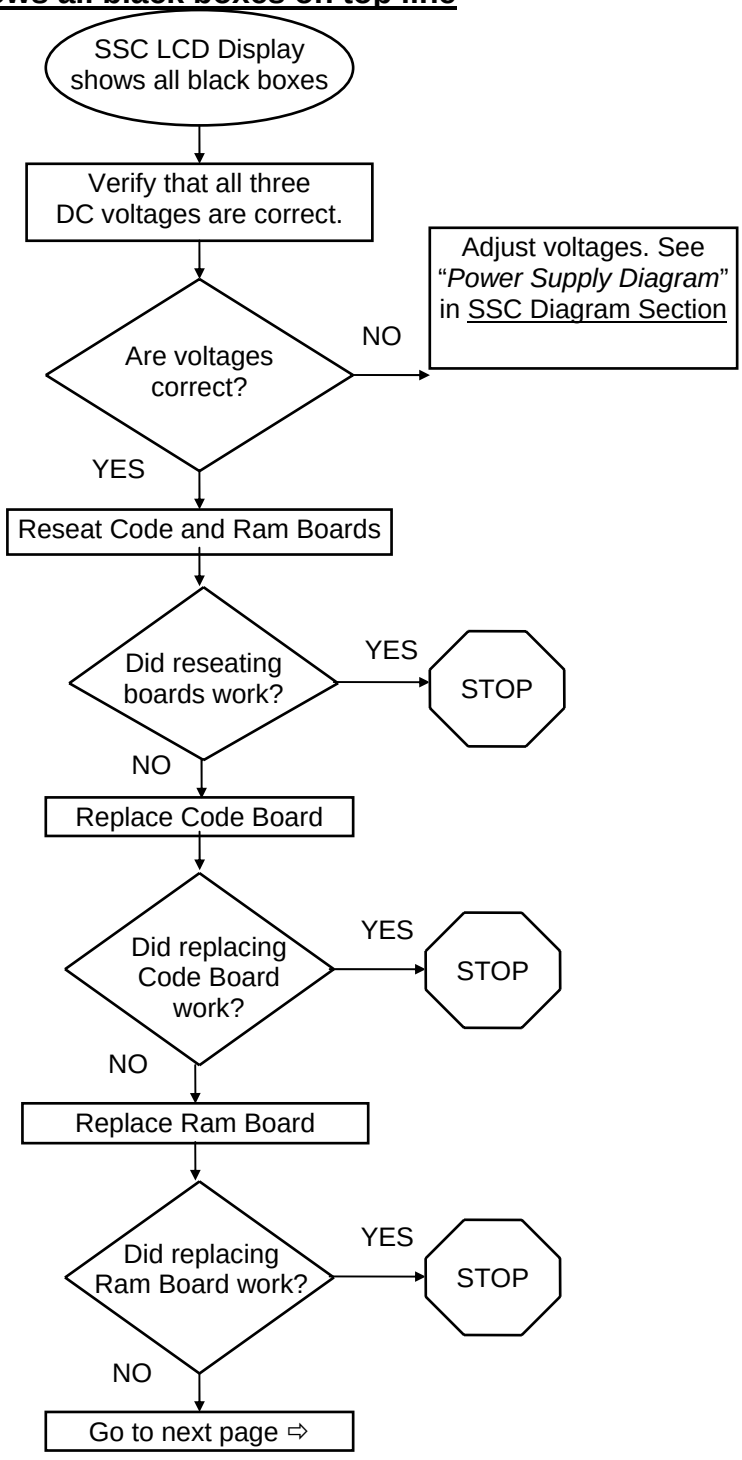
4.5.3. SSC Display

SSC LCD display shows all black boxes on top line



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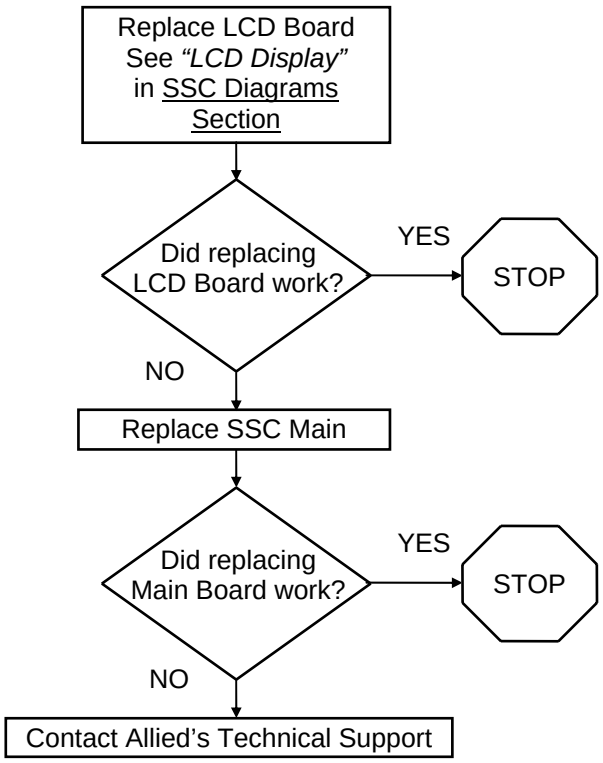

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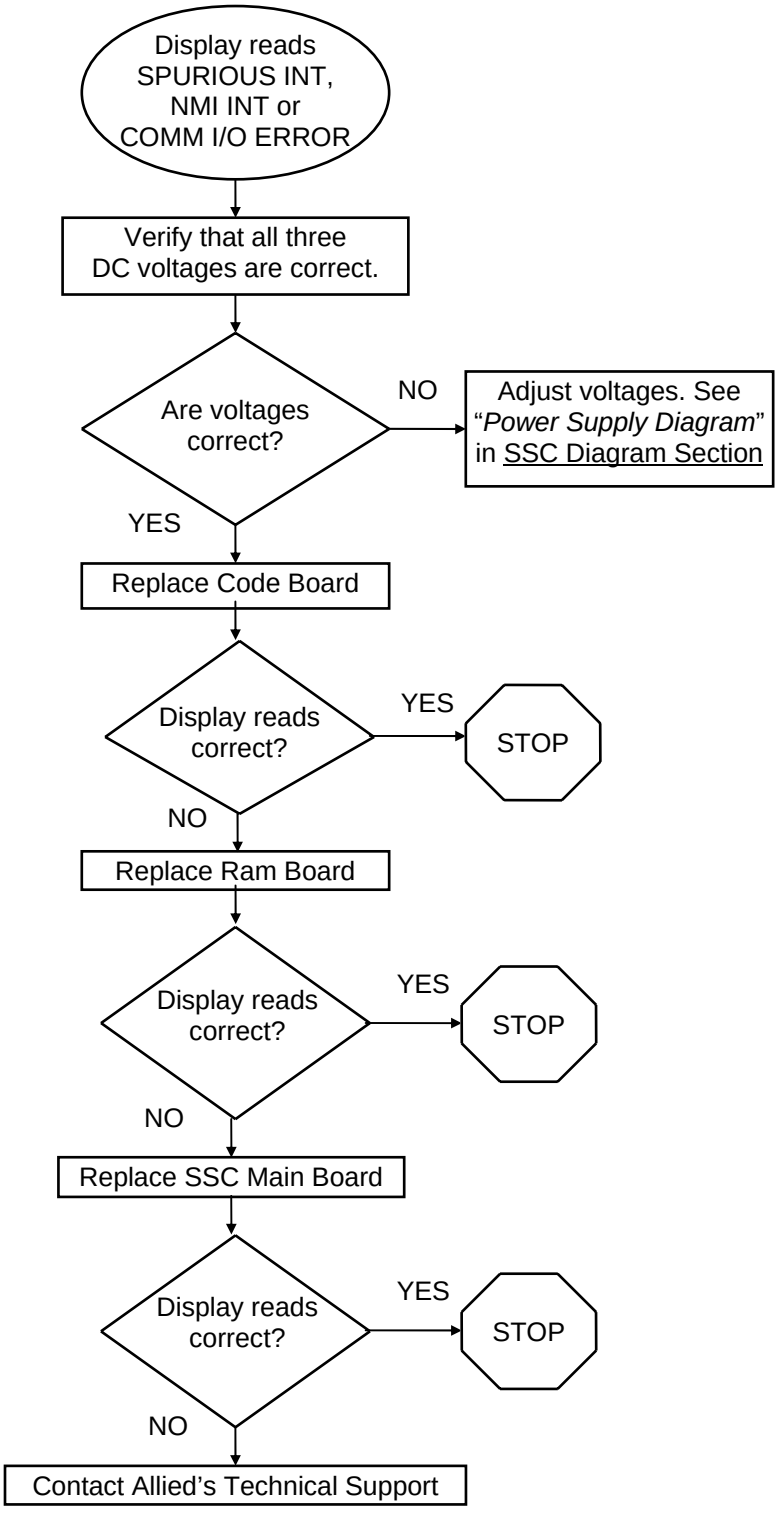
Display reads: "SPURIOUS INT", "NMI INT", or "COMM I/O ERROR"



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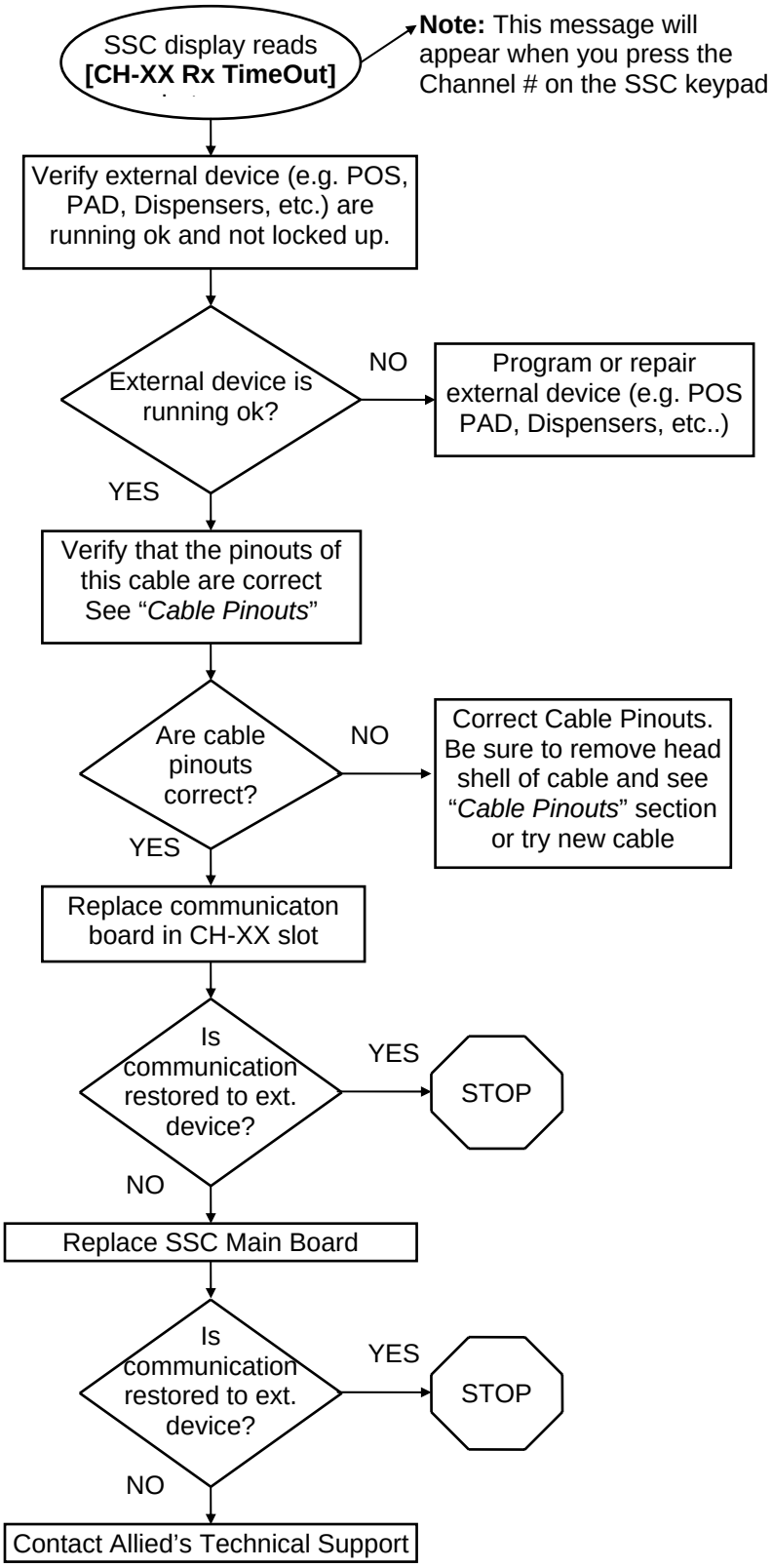
4.5.4. No Communication SSC Messages

No communication between SSC and External device [CH-XX Rx TimeOut]



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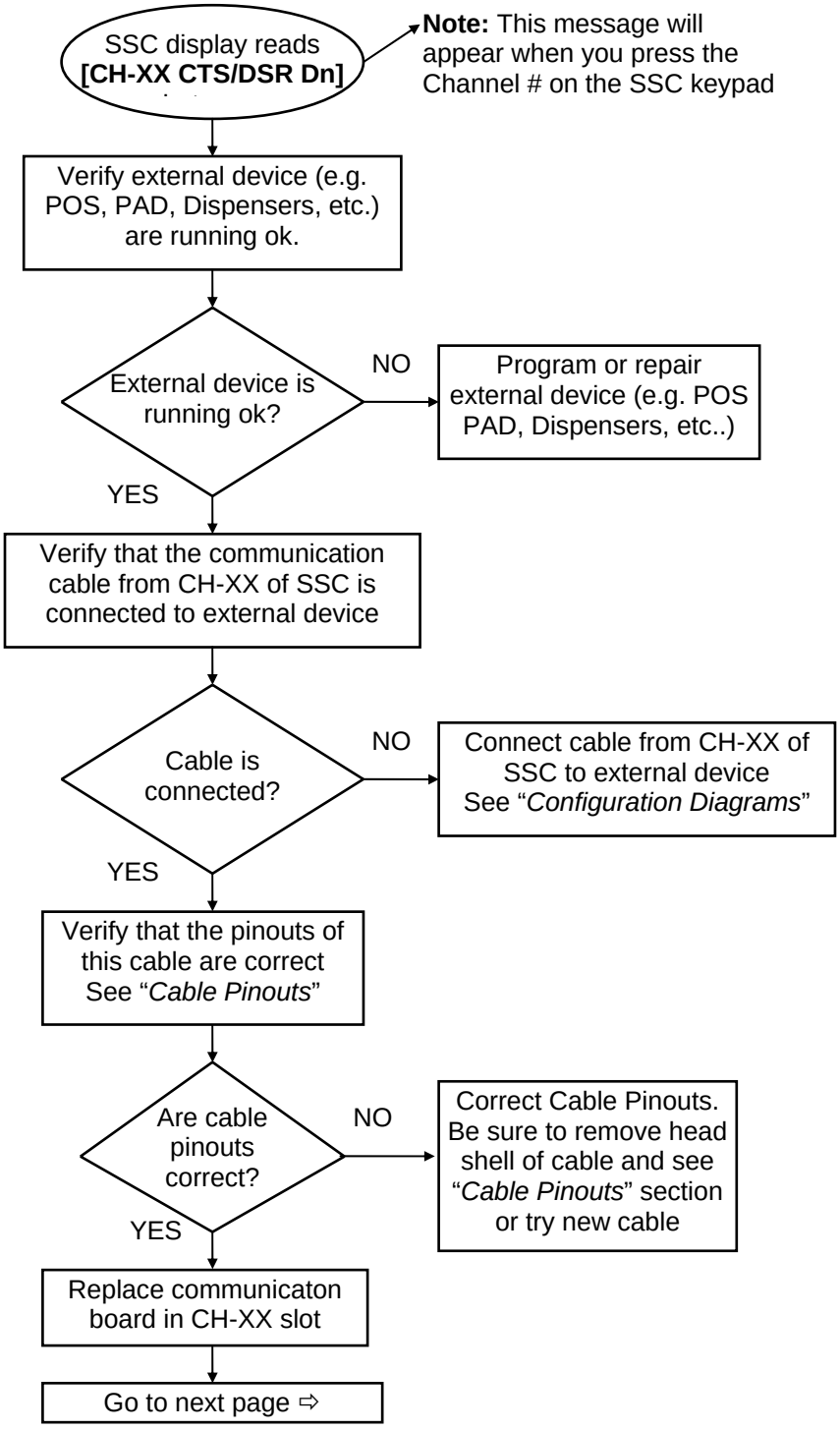
No communication between the SSC and External device messages.

[CH-XX CTS/DSR Dn] [CH-XX CTS Down] [CH-XX DSR Down]



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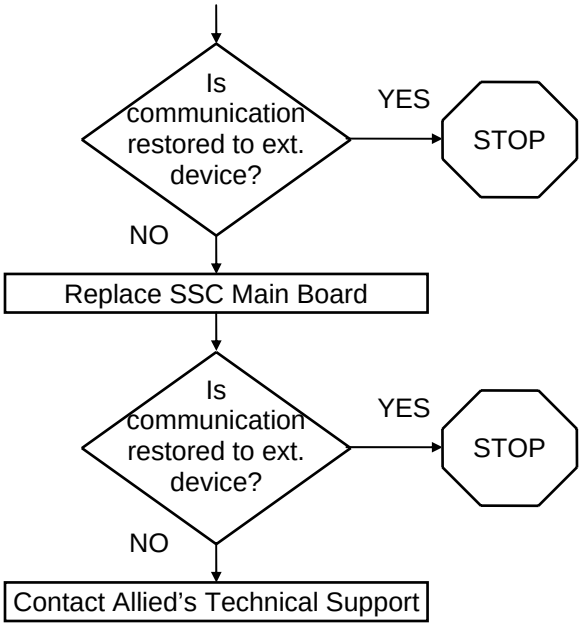

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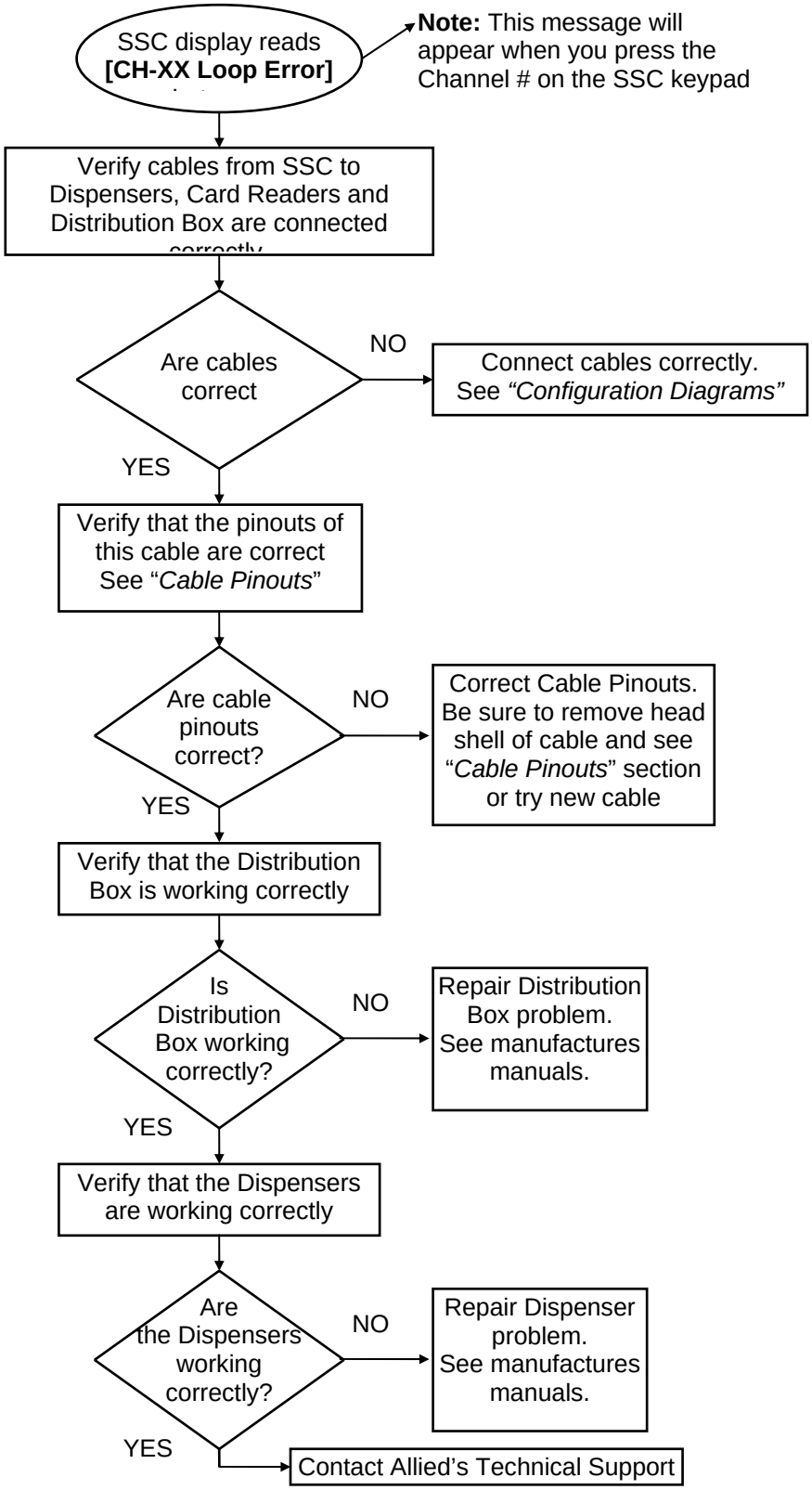
No communication between the SSC and Ext. device [CH-XX Loop Error]



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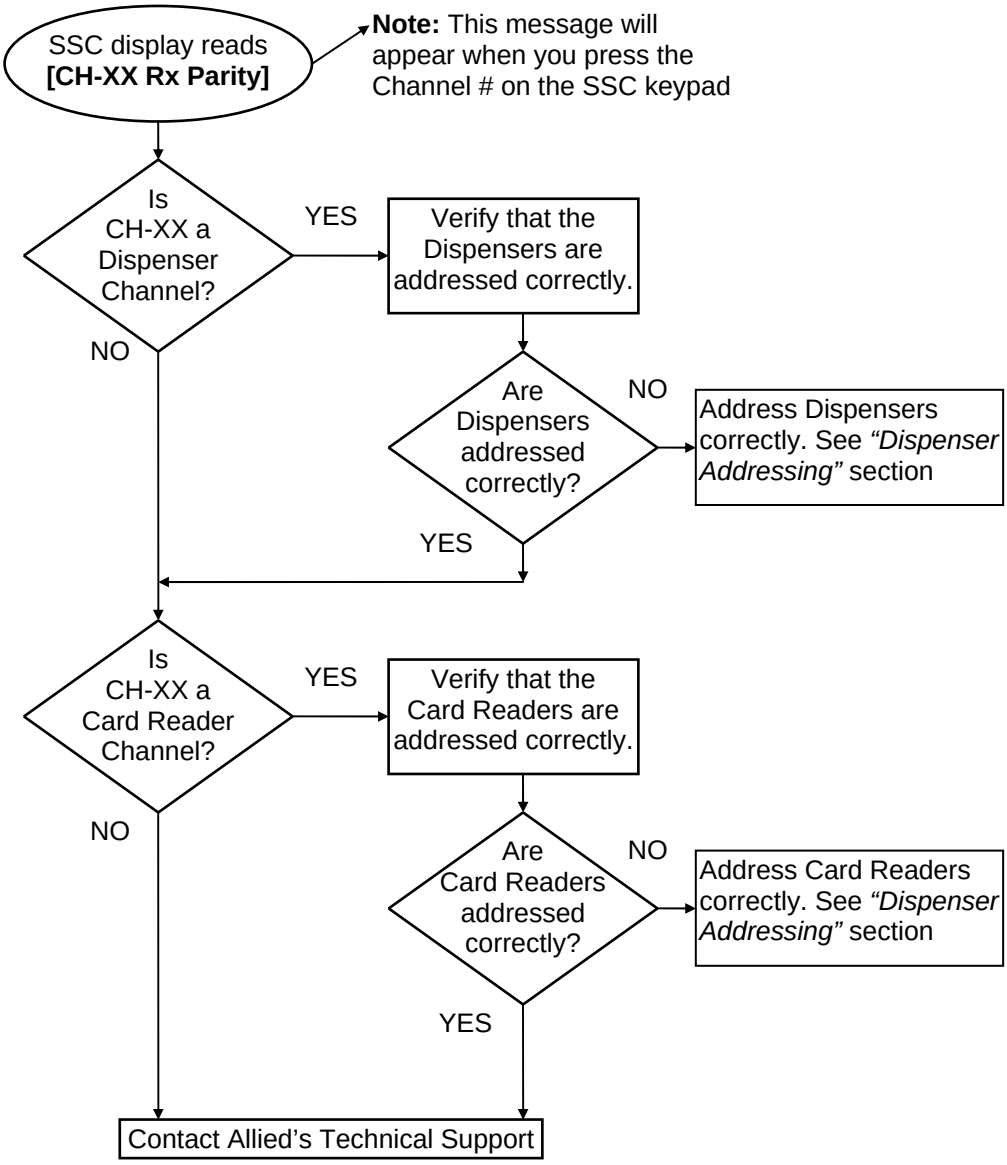
No communication between SSC and Dispensers [CH-XX Rx Parity]



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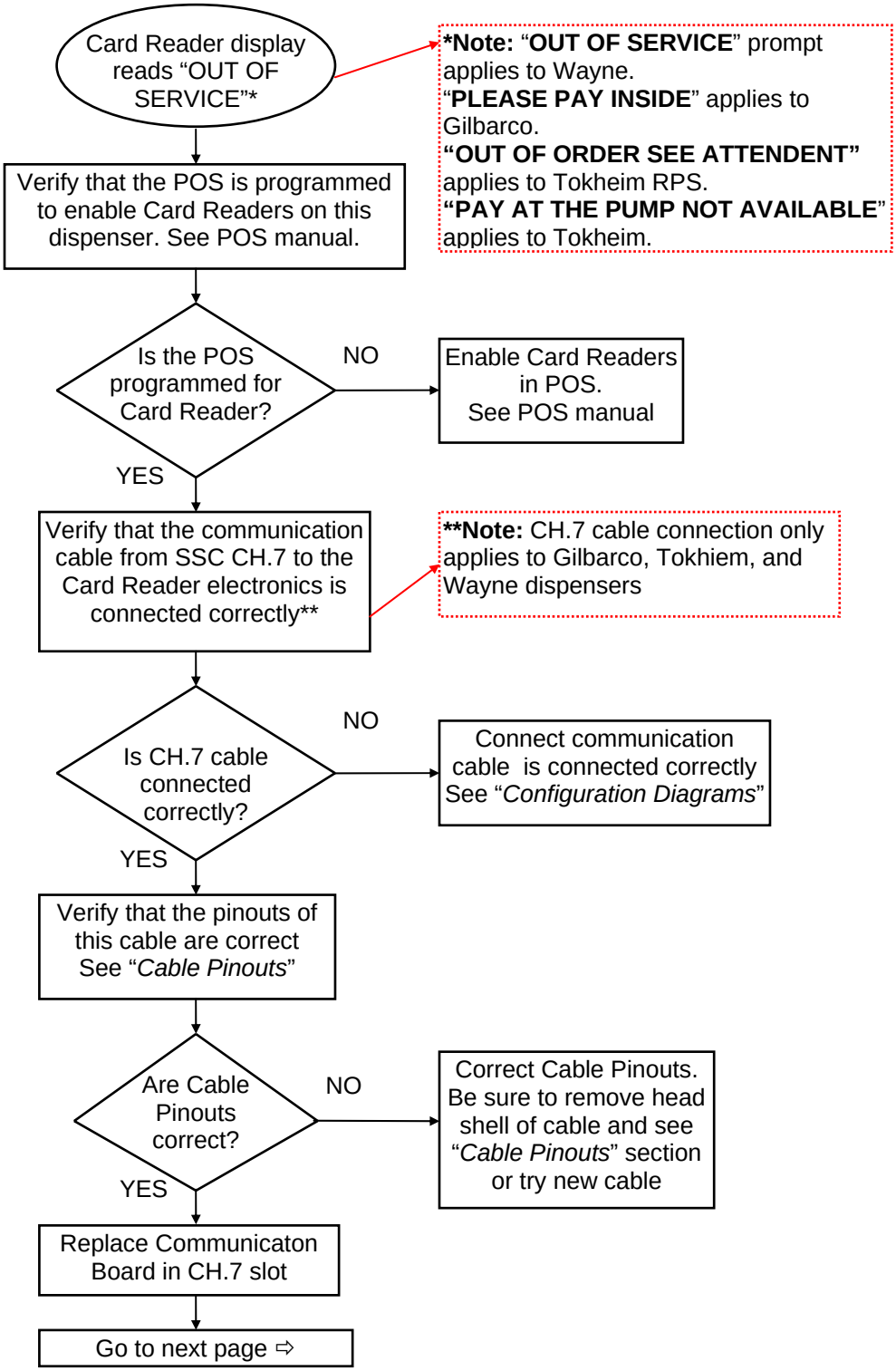
4.5.5. Card Reader Display

Card Reader display reads "OUT OF SERVICE"*



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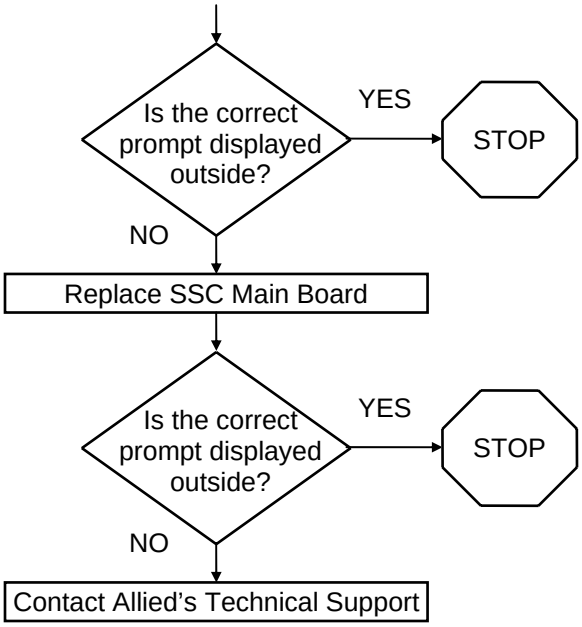

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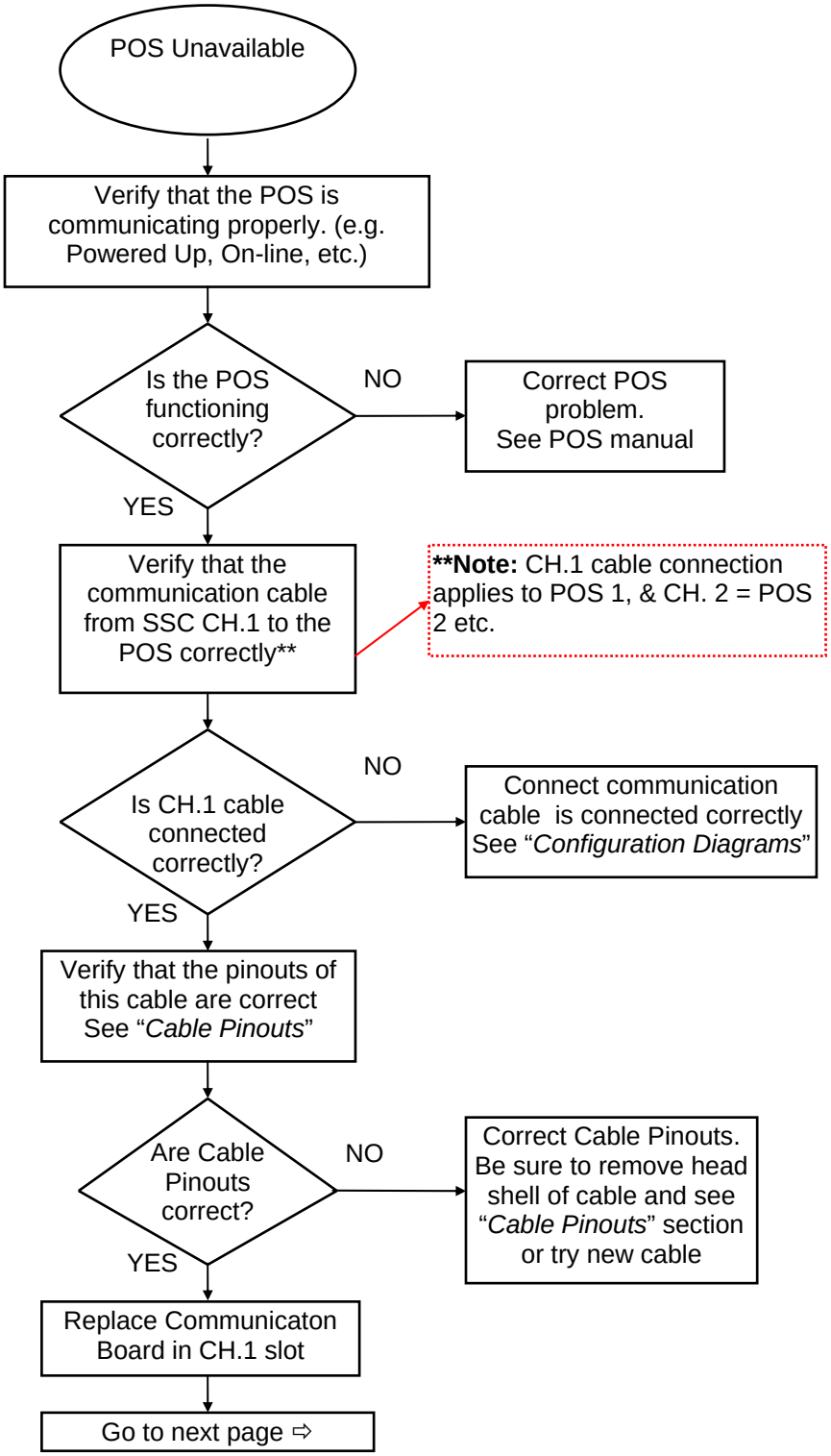
Card Reader display reads "POS UNAVAILABLE"



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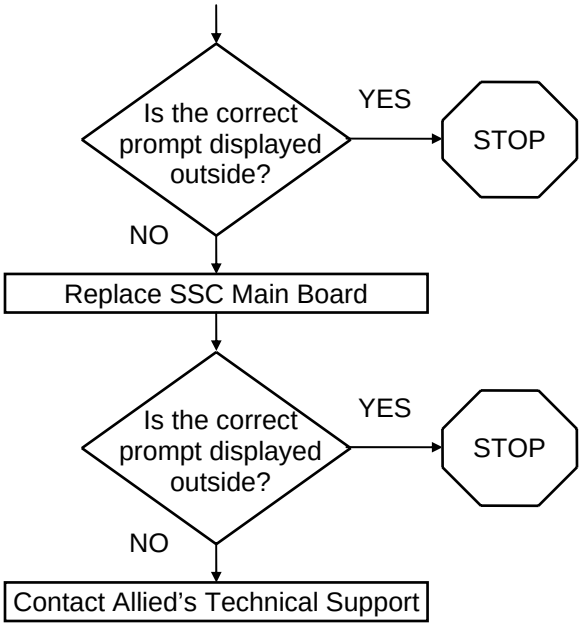

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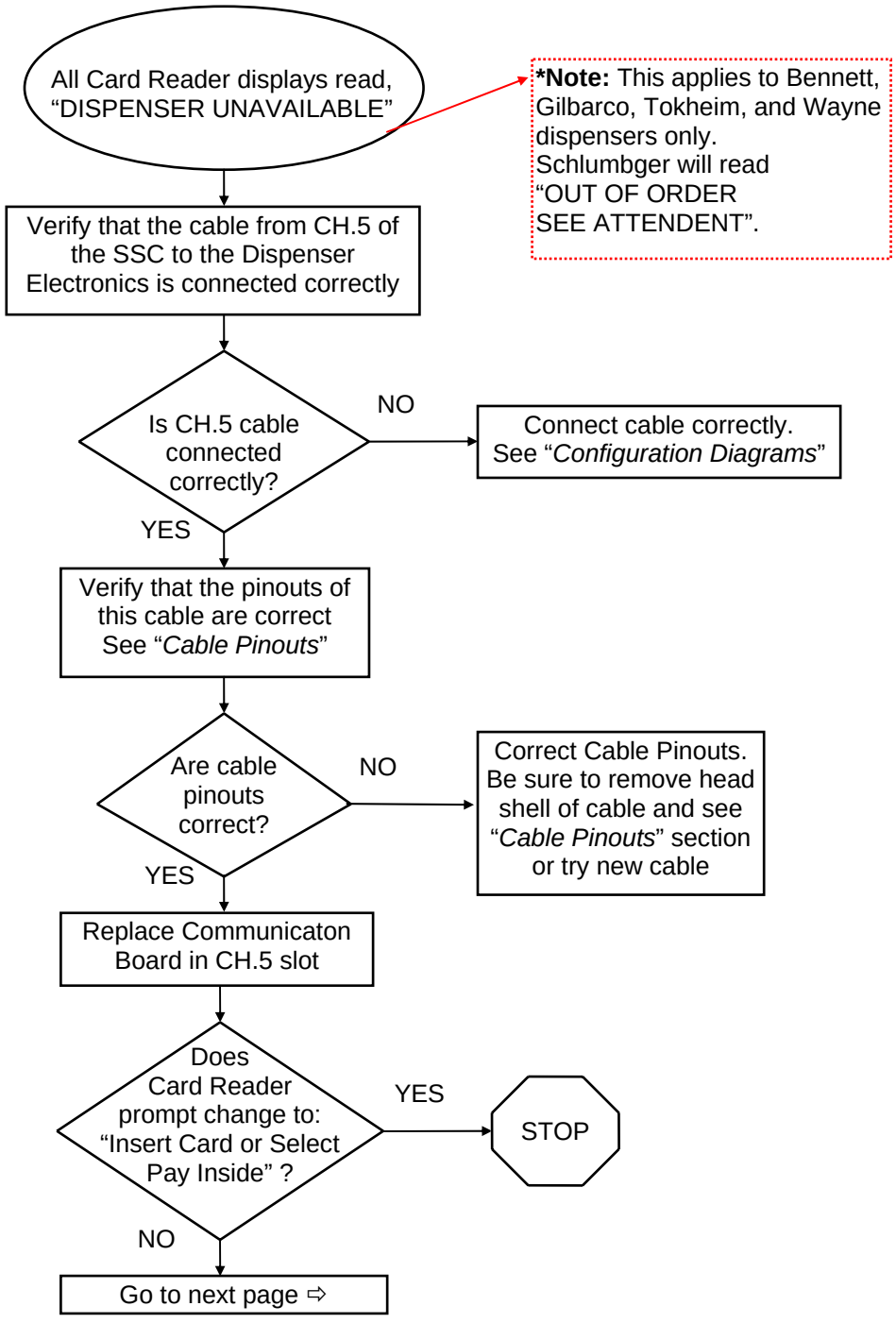
Card Reader display reads "Dispenser Unavailable" on ALL dispensers



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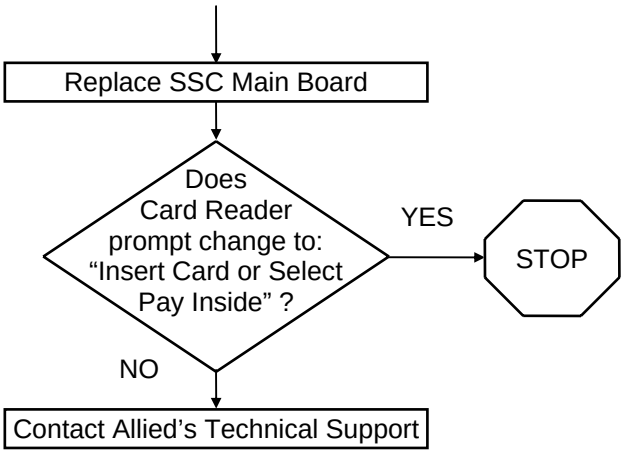

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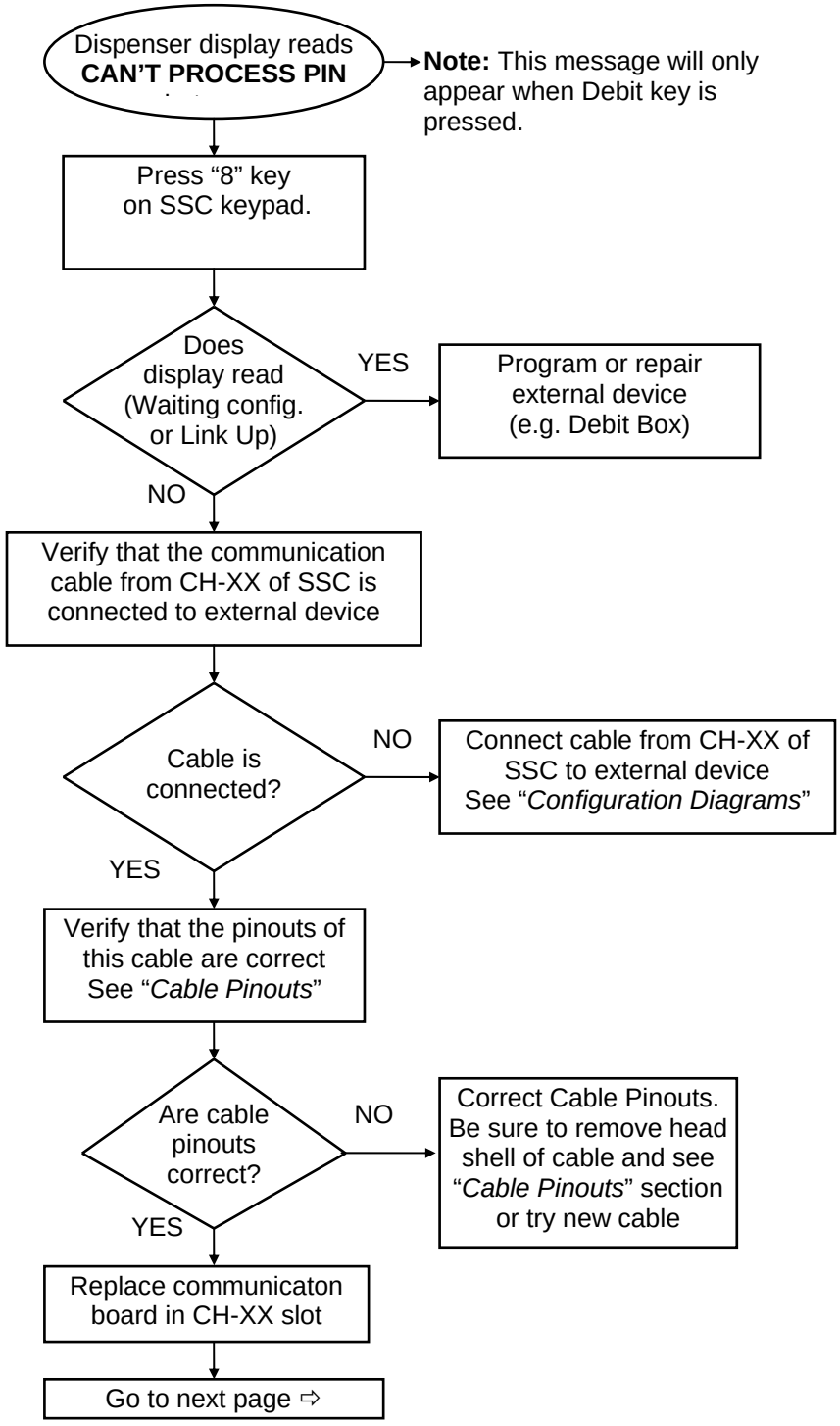
Card Reader display reads "CAN'T PROCESS PIN" on ALL dispensers



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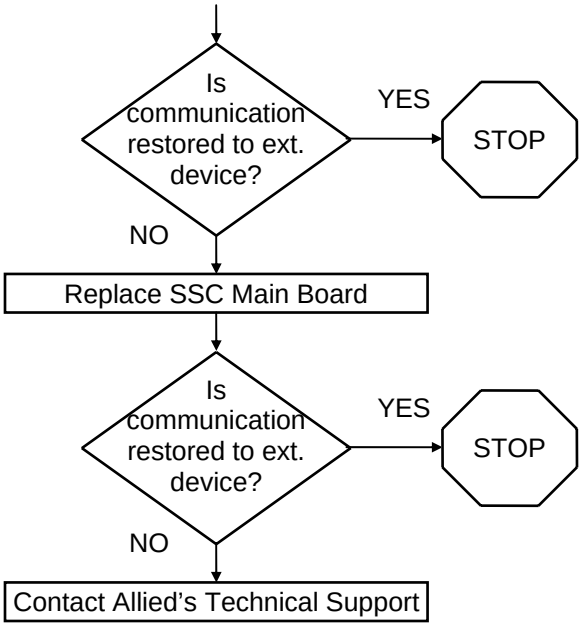

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4.6. Replacement Parts List

Part Number	Description
499-2410	20/45 ma. Current Loop Board (Gilbarco Pump/CRINDS)
399-1610-F	Fully Populated RS-232 Board (POS, Wayne PIB, Debit, Tank gauge, Car wash, Network)
399-1512	12 Volt Serial Interface Board (Tokheim Pump Control)
499-3710	RS485 Board (Tok DPT, Wayne CAT w/ or w/o the CAT IF board)
499-2810-TGN	Code Board (Texaco / Gilbarco/ Network ANDI)
499-2810-TSN	Code Board (Texaco / Tokheim/RPS / Network ANDI
499-2810-TTN	Code Board (Texaco / Tokheim / Network ANDI
499-2810-TWN	Code Board (Texaco / Wayne / Network ANDI)
499-2840A	Battery back RAM (512K)
499-2400	Main Board
MRW150KV	150KV Power Supply
MRW160KV	160KV Power Supply
142910	Power Supply Screen
HT9315	AC Power Supply Cable
HT9358	AC power supply cable w/ON-OFF switch
HT9316	DC Power Supply Cable
VC16203TANR	Display Board with Cables
HT9318	Short Ribbon Cable
HT9314	Long Ribbon Cable
17250	AC Cord
470450	Metal Enclosure
VG3-3	Card Guides
281920	Lock and Key
499AP-TMAN	Texaco POS Installation, Programming & Service Manual

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Part Number	Description
HT9325A–Length	Cabe, (ANDI to Point Of Sale w/ DB25 connection)
HT9325-ADP	RJ45 adapter, (ANDI to Point Of Sale w/ DB25 connection)
HT9359–Length	Cabe, (ANDI to Point Of Sale w/ DB9 connection)
HT9359-ADP	RJ45 adapter, (ANDI to Point Of Sale w/ DB9 connection)
HT9323B-Length	Cable, (ANDI to Gilbarco “D” box, Pump control)
HT9323B-ADP	RJ45 adapter, (ANDI to Gilbarco “D” box, Pump control)
HT9323C-Length	Cable, (ANDI to Gilbarco “D” box, CRIND control)
HT9323C-ADP	RJ45 adapter, (ANDI to Gilbarco “D” box, CRIND control)
HT9385B-ADP	RJ45 adapter, (ANDI side only, for Gilbarco “D” box w/ RJ45 connection, Pump control)
HT9385C-ADP	RJ45 adapter, (ANDI side only, for Gilbarco “D” box w/ RJ45 connection, CRIND control)
HT9330-Length	Cable, (ANDI to Gilbarco Security Module “GSM”, Debit)
HT9330-ADP	RJ45 adapter, (ANDI to Gilbarco Security Module “GSM”, Debit)
HT9331A-Length	Cable, (ANDI to Tokheim/RPS Junction Box, Pump/CardScan)
HT9347-Length	Cable, (ANDI to Tokheim/RPS Security Module “TAM”, Debit)
HT9347-ADP	RJ45 adapter, (ANDI to Tokheim/RPS “TAM”, Debit)
HT9303-Length	Cable, (ANDI to Tokheim Distribution box, Pump control)
HT9303-ADP	RJ45 adapter, (ANDI to Tokheim Distribution box, Pump control)
HT9301-Length	Cable, (ANDI to Tokheim #69 box, DPT control)
HT9301-ADP	RJ45 adapter, (ANDI to Tokheim #69 box, DPT control)
HT9339-Length	Cable, (ANDI to Wayne PIB, Pump control)
HT9339-ADP	RJ45 adapter, (ANDI to Wayne PIB, Pump control)
HT9356-Length	Cable, (ANDI to Wayne CAT IF board)
HT9356-ADP	RJ45 adapter, (ANDI to Wayne CAT IF board)
HT9338-Length	Cable, (ANDI to Veeder Root tank gauge)
HT9338-ADP	RJ45 adapter, (ANDI to Veeder Root tank gauge)
HT9348-Length	Cable, (ANDI to Ryko III controller)
HT9348-ADP	RJ45 adapter, (ANDI to Ryko III controller)
HT9344-Length	Cable, (ANDI to Ryko IV & Unitec POS 4000 controller)
HT9344-ADP	RJ45 adapter, (ANDI to Ryko IV & Unitec POS 4000 controller)
HT9350-Length	Cable, (ANDI to Unitec Interlink controller)
HT9350-ADP	RJ45 adapter, (ANDI to Unitec Interlink controller)
HT9349-Length	Cable, (ANDI to VSAT, Equiva Network)
HT9349-ADP	RJ45 adapter, (ANDI to VSAT, Equiva Network)

All communication cables are available in the following lengths: 25’, 50’, 75’, 100’, 125’, 150’, 175’, and 200’.

Note: Consult Allied Technical Support for cable lengths exceeding 200’.

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